PCM®
marine engines

# MARINE ILLUSTRATED PARTS MANUAL

## MODEL MP6.0L

## MY 2007

Z6

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## “TYPICAL VIEWS ARE SHOWN”

## ENGINE ROTATION

Engine Rotation is identified as “RH” or “LH” with the engine model number. Rotation always is determined from the flywheel end looking toward the front of the engine. In some instances, propeller shaft rotation may be opposite to that of the engine.

When ordering a replacement engine, production block or parts for the engine, be certain to check engine rotation. **DO NOT rely on propeller rotation in order to determine engine rotation.**

## LEFT-HAND ROTATION is STANDARD ROTATION.

(Flywheel turns counterclockwise when viewed from flywheel end of the engine.)

## RIGHT-HAND ROTATION is OPPOSITE ROTATION.

(Flywheel turns clockwise when viewed from flywheel end of the engine.)

## HOW TO READ THIS PARTS BOOK:

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | RB001005I | 1 | **Base Engine Assembly**, 6.0L | |

1. ITEM NUMBER - This number corresponds with the number in the exploded view on the facing page.

2. PART NUMBER - This is the designated part number for the particular component or assembly.

3. QUANTITY - This refers to the number of pieces used.

4. DESCRIPTION - This identifies what the component or assembly is.

5. MODEL ID - This identifies a component or assembly that is unique to a specific engine model.

==========

Symbols shown throughout parts list are defined here or on the bottom of the individual parts list page.

| | | |
|---|---|---|
| AR | = | As Required |
| OPT | = | Optional |
| NSS | = | Not Serviced Separately |
| NA | = | Not Available |
| OS | = | Oversize |
| US | = | Undersize |
| TBD | = | To Be Determined |
| NI | = | Not Illustrated |

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## REPLACEMENT PARTS:

***WARNING:***

Electrical, ignition and fuel system components on PCM Engines are designed and manufactured to comply with U.S. Coast Guard rules and regulations to minimize risks of fire or explosion.

Use of replacement electrical, ignition and fuel system components which do not comply with these rules and regulations could result in a fire or explosion hazard and should be avoided.

## MAINTENANCE ITEM PART NUMBERS:

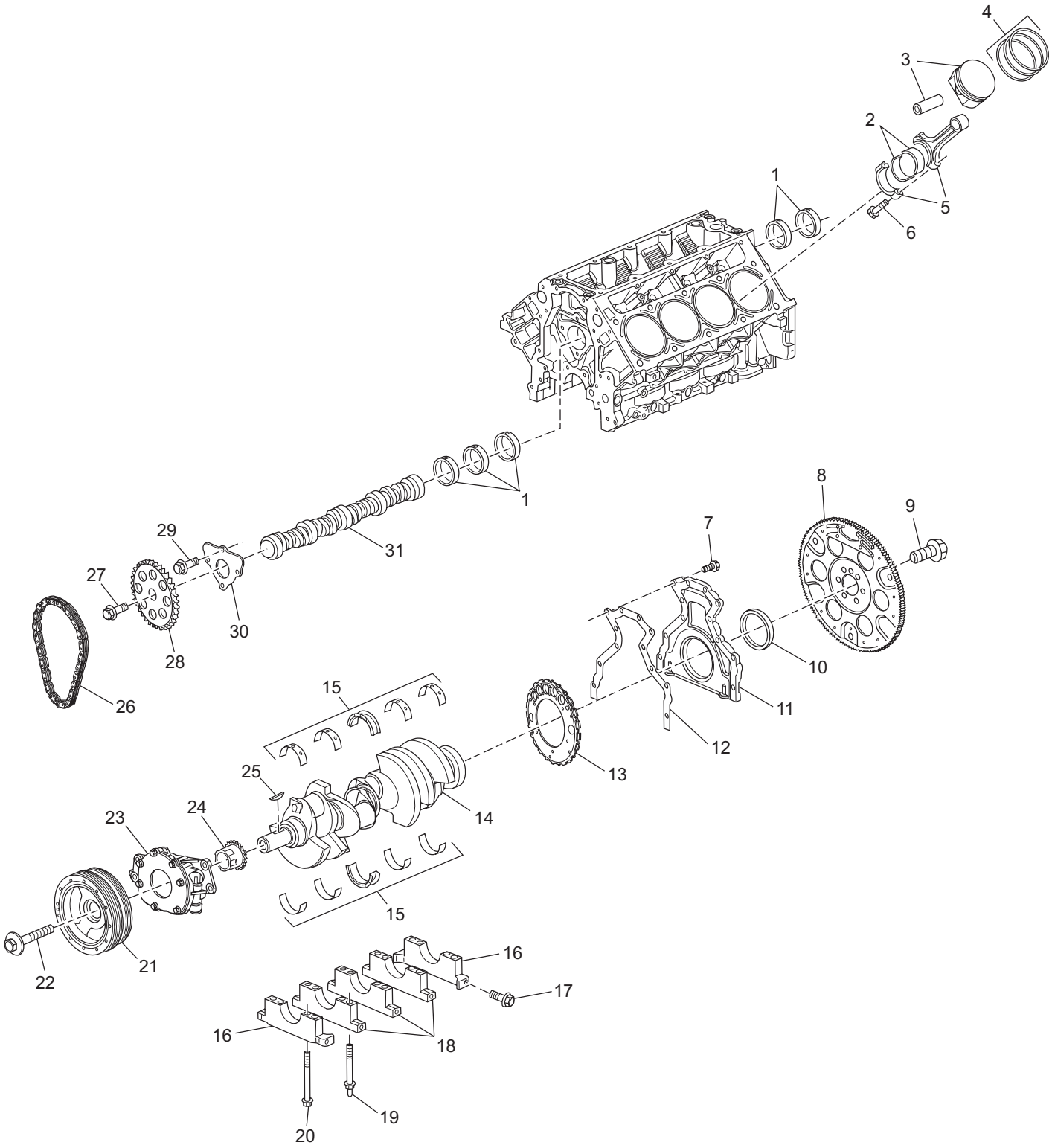
| Description | Part Number |
|---|---|
| Oil Filter | R077001 |
| Kit, Transmission Oil Filter (ZF) | RP077011 |
| Fuel Filter (FCC) | RP080026 |
| Spark Plugs | RP030011 |
| Spark Plug Wire Set | RK120021 |
| Serpentine Drive Belt | R066027 |
| Raw Water Pump Impeller Kit | RP061022 |
| Thermostat | R026007 |

## MARINE TRANSMISSIONS:

PCM Engines are equipped with PCM or Hurth Transmissions, standard or “V”-drive. If transmission parts are required, contact your dealer or closest PCM Parts Distributor for required parts.

Parts manuals and overhaul manuals are available through PCM Distributors.

# CYLINDER BLOCK ASSEMBLY - FIGURE 1

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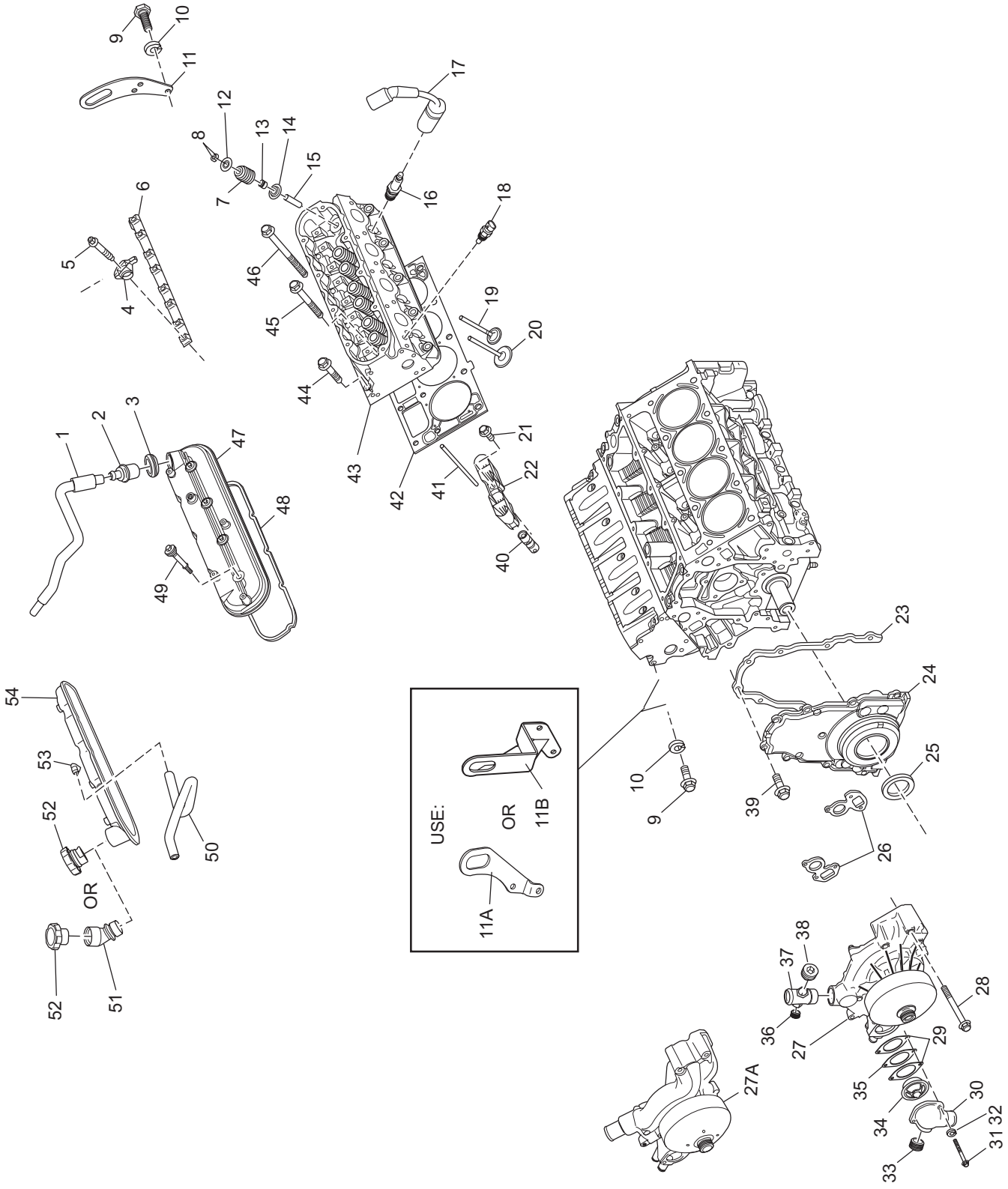
# CYLINDER BLOCK ASSEMBLY - FIGURE 1

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| * | RB001021 | | **Base Engine Assembly** | |
| 1 | TBD | 1 | **Bearing Set**, camshaft | |
| 2 | R007029 | 8 | **Bearing**, for one connecting rod (STD) | |
| 3 | RA013018 | 8 | **Piston w/Pin**, (STD) | |
| 4 | TBD | 8 | **Ring Set**, piston (STD) | |
| 5 | TBD | 8 | **Connecting Rod** (STD) | |
| 6 | TBD | 16 | **Bolt**, connecting rod cap | |
| 7 | TBD | 12 | **Bolt**, rear engine cover | |
| 8 | RA138016 | 1 | **Flywheel Assembly** | |
| 9 | R009205 | 6 | **Bolt**, flywheel attaching | |
| 10 | R047236 | 1 | **Seal**, crankshaft rear oil | |
| 11 | TBD | 1 | **Cover**, rear engine | |
| 12 | TBD | 1 | **Gasket**, rear engine cover | |
| 13 | p/o item #14 | 1 | **Reluctor Ring**, crankshaft | |
| 14 | TBD | 1 | **Crankshaft Assembly** | |
| 15 | TBD | 1 | **Bearing Set**, crankshaft | |
| 16 | TBD | 2 | **Cap**, crankshaft bearing #1 and #5 | |
| 17 | TBD | 10 | **Bolt**, crankshaft bearing cap side | |
| 18 | TBD | 3 | **Cap**, crankshaft bearing #2 - #4 | |
| 19 | TBD | | **Stud**, crankshaft bearing cap attaching | |
| 20 | TBD | | **Bolt**, crankshaft bearing cap attaching | |
| 21 | R064016 | 1 | **Balancer**, crankshaft | |
| 22 | TBD | 1 | **Bolt**, crankshaft balancer | |
| 23 | TBD | 1 | **Oil Pump Assembly** | |
| 24 | TBD | 1 | **Drive**, oil pump | |
| 25 | TBD | 1 | **Key**, crankshaft | |
| 26 | TBD | 1 | **Chain**, timing | |
| 27 | TBD | 1 | **Bolt**, camshaft sprocket attaching | |
| 28 | TBD | 1 | **Sprocket**, camshaft | |
| 29 | TBD | 3 | **Bolt**, camshaft retainer attaching | |
| 30 | TBD | 1 | **Retainer**, camshaft | |
| 31 | TBD | 1 | **Camshaft** | |

# CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

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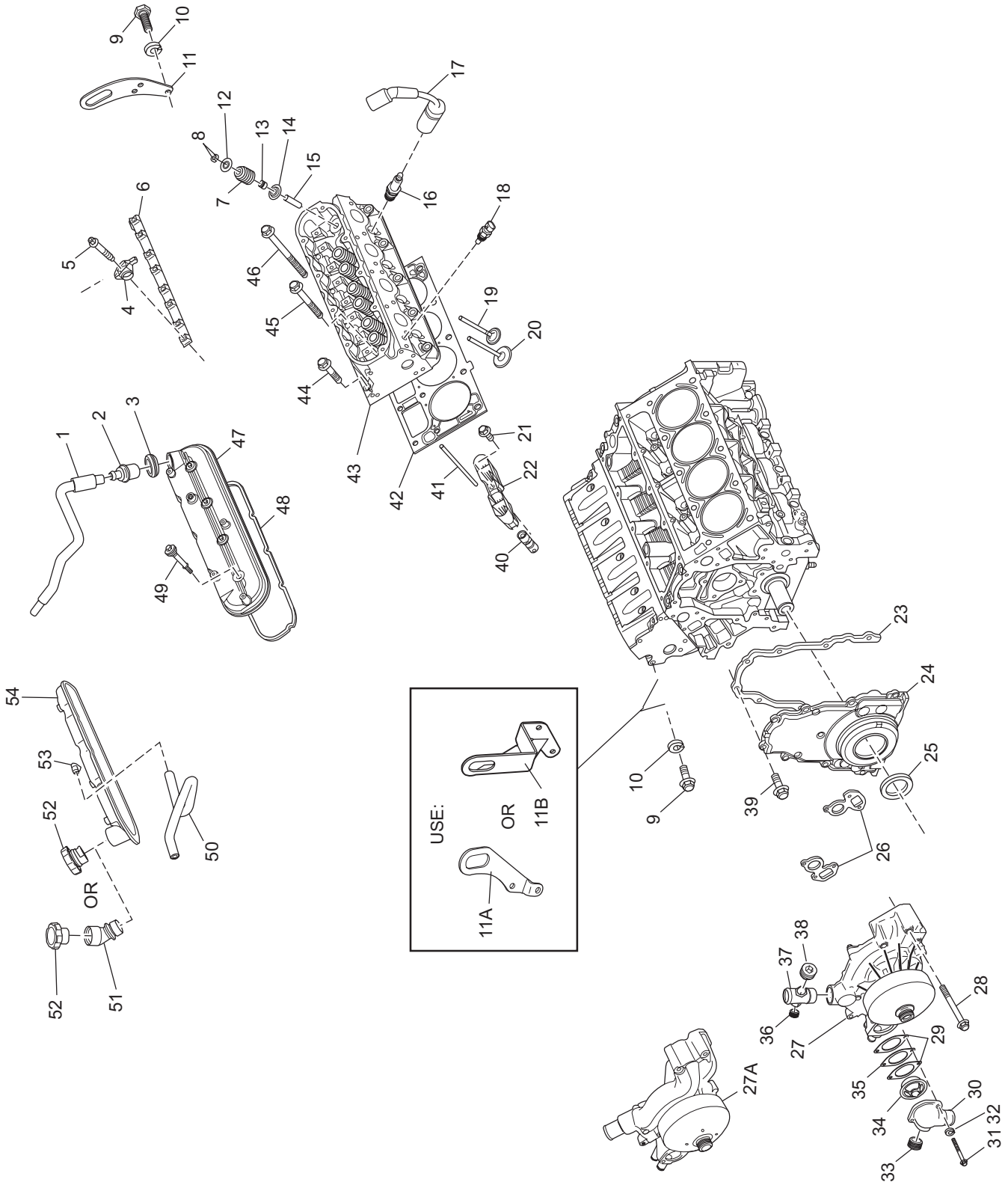
# CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | TBD | 1 | **Hose**, PCV valve | |
| 2 | TBD | 1 | **Valve**, positive crankcase ventilation (PCV) | |
| 3 | TBD | 1 | **Grommet**, PCV valve | |
| 4 | TBD | 16 | **Rocker Arm**, valve | |
| 5 | TBD | 16 | **Bolt**, valve rocker arm attaching | |
| 6 | TBD | 2 | **Guide**, valve rocker arm | |
| 7 | TBD | 16 | **Valve Spring Assembly** | |
| 8 | TBD | 32 | **Retainer**, valve stem | |
| 9 | 98443025 | 4 | **Bolt**, lifting eye attaching | |
| 10 | 93940000 | 4 | **Lockwasher**, lifting eye attaching bolt | |
| 11 | R042012 | 1 | **Lifting Eye**, rear, all | |
| 11A | R042014 | 1 | **Lifting Eye,** front, std. drive (replaces R042012) | |
| 11B | R042016 | 1 | **Lifting Eye**, front, v-drv (replaces R042012) | |
| 12 | TBD | 16 | **Cap**, valve spring | |
| 13 | TBD | 16 | **Seal**, valve stem | |
| 14 | TBD | 32 | **Rotator**, valve | |
| 15 | TBD | 16 | **Guide**, valve stem | |
| 16 | RP030011 | 8 | **Spark Plug** | |
| 17 | RK12002 | 1 | **Spark Plug Wire Set** | |
| 18 | R020046 | 1 | **Engine Coolant Temperature (ECT) Sensor** | |
| 19 | TBD | 8 | **Valve**, exhaust (STD) | |
| 20 | TBD | 8 | **Valve**, intake (STD) | |
| 21 | TBD | 8 | **Bolt**, valve lifter retainer attaching | |
| 22 | TBD | 8 | **Retainer**, valve lifter | |
| 23 | RM0280 | 1 | **Gasket**, front engine cover | |
| 24 | TBD | 1 | **Cover**, front engine | |
| 25 | R047237 | 1 | **Seal**, front engine cover oil | |
| 26 | RM0281 | 2 | **Gasket**, water circulating pump | |
| 27 | RK057033B | 1 | **Water Circulation Pump Assembly** | |
| 27A | RA057036 | 1 | **Water Circulation Pump Assembly (S/N 470419 and above)** | |
| 28 | TBD | 4 | **Bolt**, water circulating pump attaching | |
| 29 | RM0275 | 2 | **Gasket**, thermostat housing | |
| 30 | R025036 | 1 | **Housing**, thermostat | |
| 31 | 98223016 | 2 | **Bolt**, thermostat housing attaching | |
| 32 | 93920000 | 2 | **Lockwasher**, thermostat housing attaching | |
| 33 | 113186 | 1 | **Plug**, thermostat housing | |
| 34 | R026002 | 1 | **Thermostat**, (160˚ F) | |
| 35 | R109051 | 1 | **Plate**, thermostat retainer | |
| 36 | RS3551 | 1 | **Plug**, water neck | |
| 37 | R024208 | 1 | **Water Neck** | |
| 38 | RS3551 | 1 | **Plug**, water neck | |
| 39 | TBD | 8 | **Bolt**, front engine cover attaching | |

## CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2 (cont'd)

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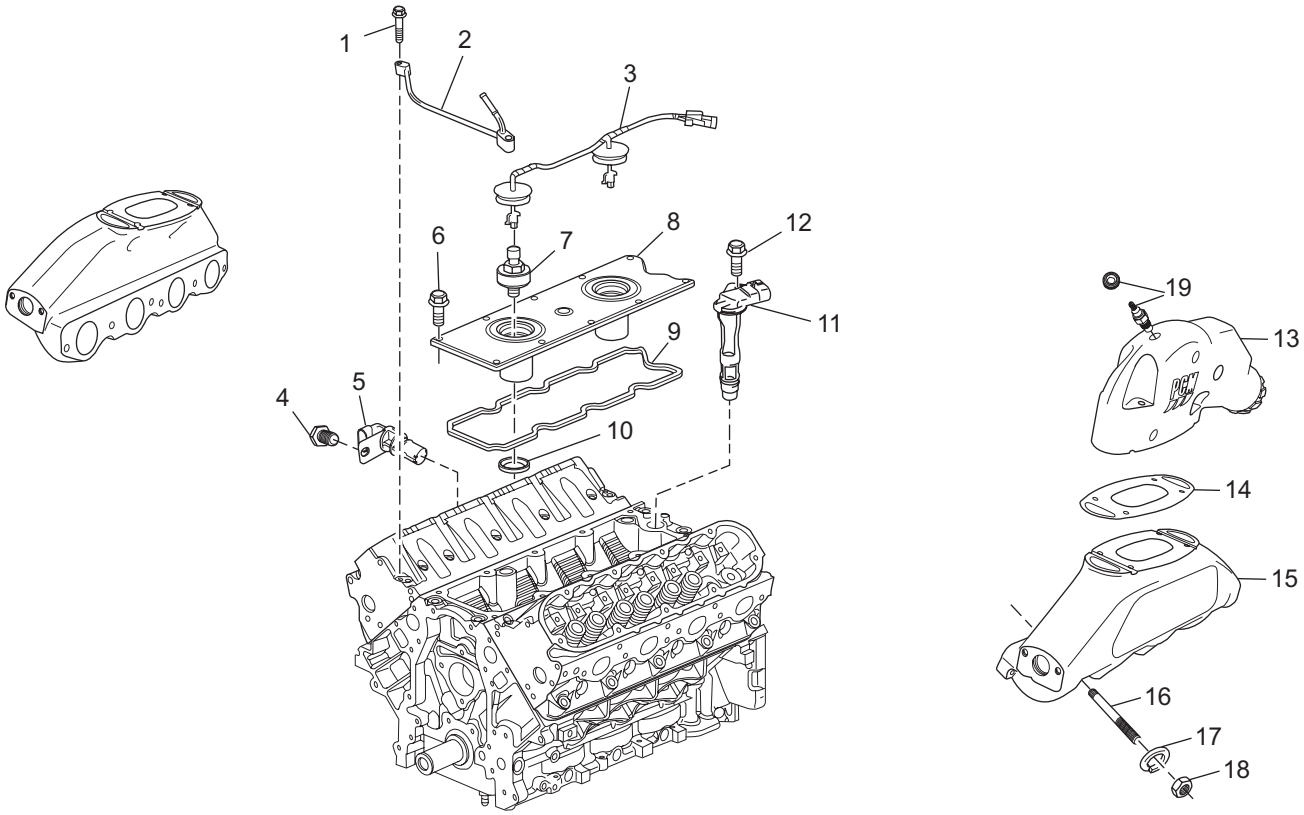
## CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2 (cont'd)

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 40 | TBD | 16 | **Lifter**, valve | |
| 41 | TBD | 16 | **Push Rod** | |
| 42 | RM0278 | 2 | **Gasket**, Cylinder Head | |
| 43 | R003016 | 2 | **Cylinder Head** | |
| 44 | R009208 | 4 | **Bolt**, cylinder head (short) | |
| 45 | R009209 | 10 | **Bolt**, cylinder head (medium) | |
| 46 | R009207 | 16 | **Bolt**, cylinder head (long) | |
| 47 | RA033016 | 1 | **Cover**, rocker (LH) | |
| 48 | RM0282 | 2 | **Gasket**, rocker cover | |
| 49 | TBD | 8 | **Bolt**, rocker cover attaching | |
| 50 | TBD | 1 | **Tube**, breather | |
| 51 | R034049 | 1 | **Tube**, oil fill | |
| 52 | R034038B | 1 | **Cap**, oil fill tube | |
| 53 | TBD | 1 | **Fitting**, breather tube | |
| 54 | RA033017 | 1 | **Cover**, rocker w/Oil Fill (RH) | |

# EXHAUST MANIFOLD / KNOCK SENSORS - FIGURE 3

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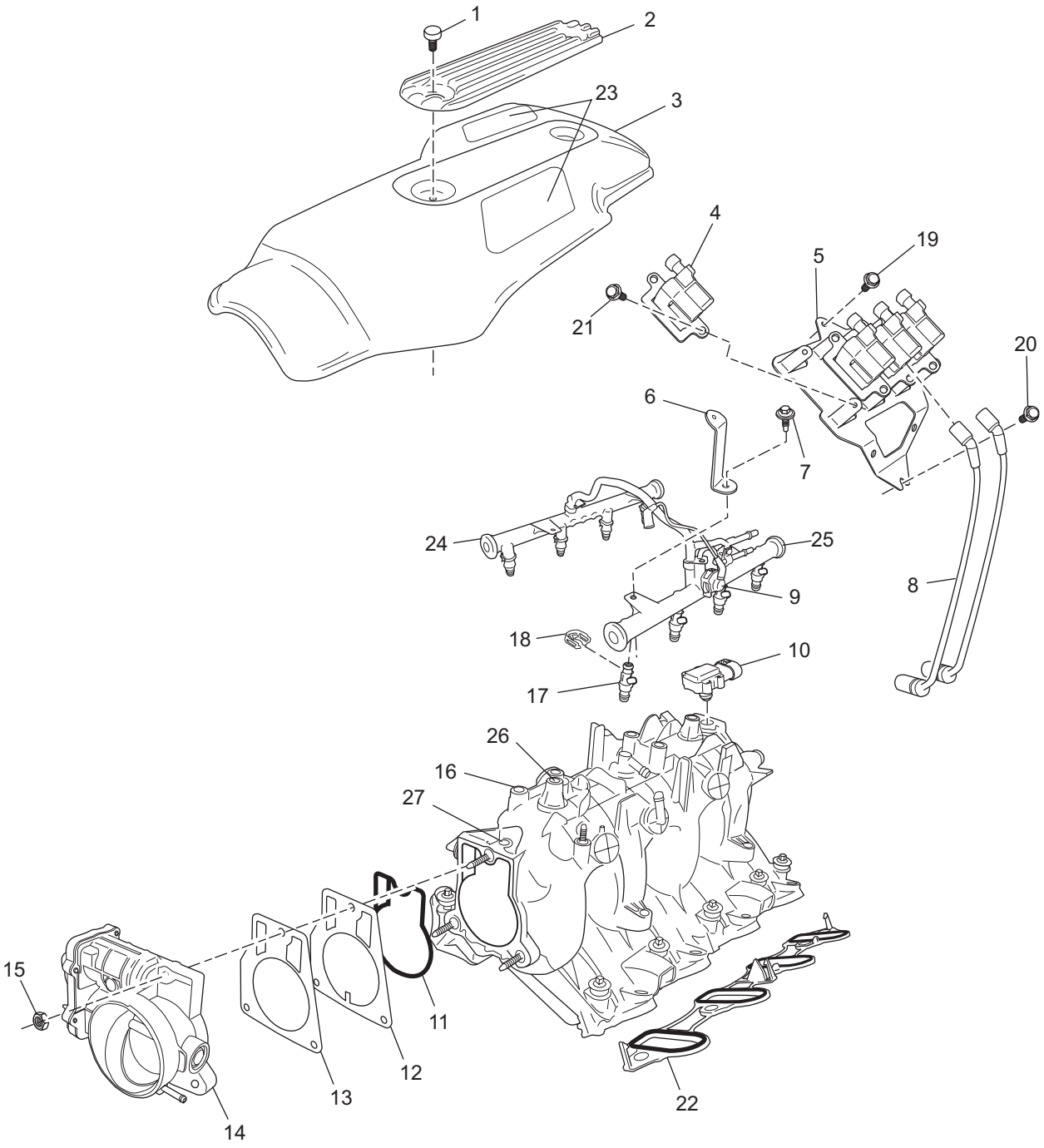
## EXHAUST MANIFOLD / KNOCK SENSORS - FIGURE 3

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | TBD | 2 | **Bolt**, coolant air bleed pipe attaching | |
| 2 | TBD | 1 | **Pipe**, coolant air bleed | |
| 3 | TBD | 1 | **Harness**, knock sensor | |
| 4 | TBD | 1 | **Bolt**, crankshaft position attaching | |
| 5 | R020044 | 1 | **Sensor**, crankshaft position | |
| 6 | TBD | 10 | **Bolt**, valley cover attaching | |
| 7 | R020043 | 2 | **Sensor**, knock | |
| 8 | TBD | 1 | **Cover**, valley | |
| 9 | TBD | 1 | **Gasket**, valley cover | |
| 10 | TBD | 2 | **Seal**, knock sensor oil | |
| 11 | R020045 | 1 | **Sensor**, camshaft position | |
| 12 | TBD | 1 | **Bolt**, camshaft position attaching | |
| 13 | R029016 | 2 | **Elbow**, exhaust | |
| 14 | RM0274 | 2 | **Gasket**, exhaust elbow to manifold | |
| 15 | R028023 | 2 | **Manifold**, exhaust | |
| 16 | R031035 | 12 | **Stud**, exhaust manifold attaching | |
| 17 | 93930000 | 12 | **Lockwasher**, exhaust manifold stud attaching | |
| 18 | 97330000 | 12 | **Nut**, exhaust manifold stud attaching | |
| 19 | RS3539 | 2 | **Plug**, exhaust elbow | |
| 19 | R020047 | 2 | **Switch**, exhaust temperature (optional) | |

# INTAKE MANIFOLD COMPONENTS - FIGURE 4

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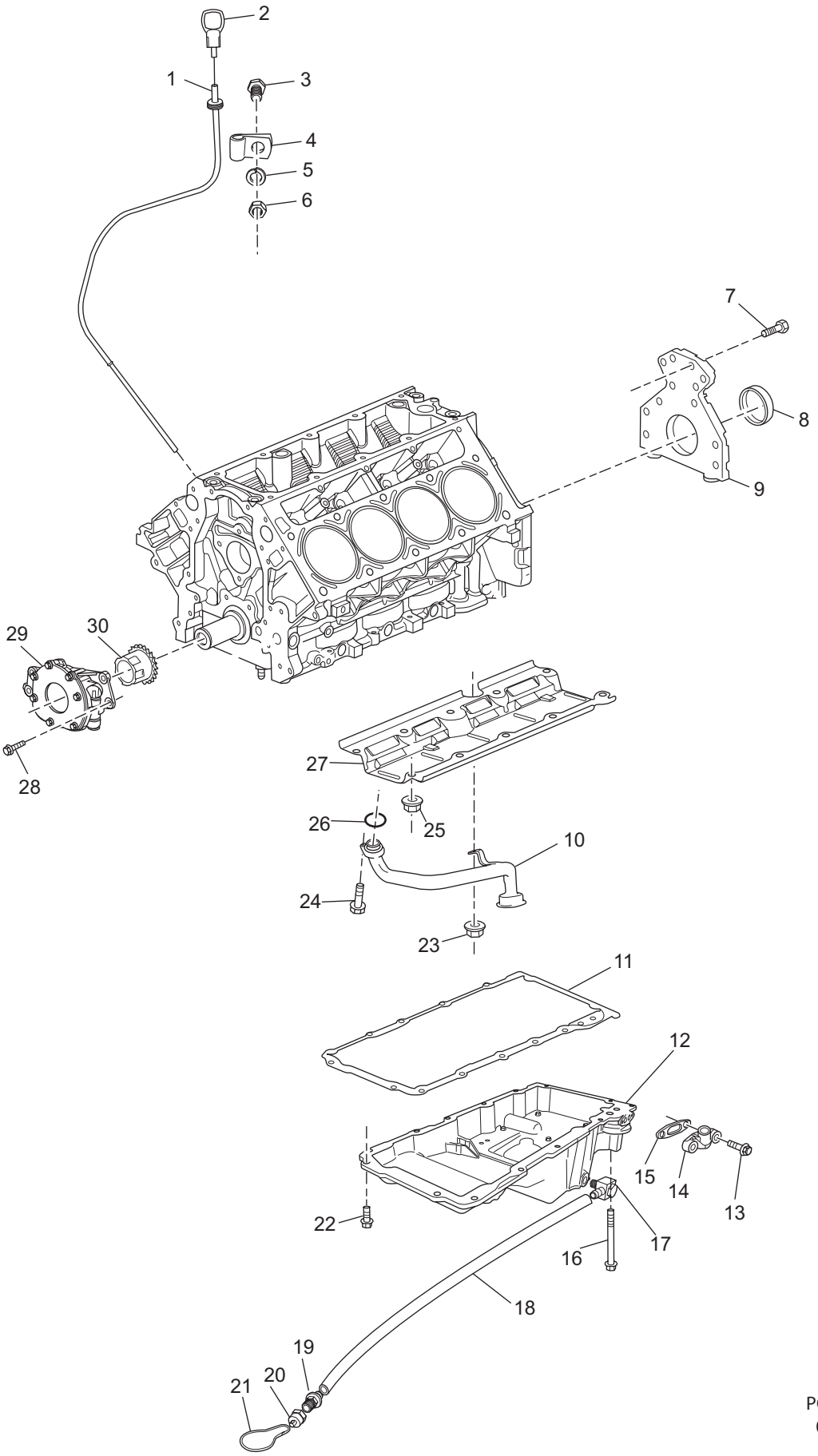
# INTAKE MANIFOLD COMPONENTS - FIGURE 4

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R175055 | 2 | **Bolt**, engine cover attaching | |
| 2 | R060063 | 1 | **Insert**, engine cover | |
| 3 | R060062 | 1 | **Cover**, engine | |
| 3 | R060062B | 1 | **Cover**, engine, used with front mount degas bottle | 04-600V-xx, 15-600V-xx |
| 4 | R117013 | 8 | **Coil**, ignition | |
| 5 | R090273 | 2 | **Bracket**, ignition coil mounting | |
| 6 | R090268 | 2 | **Bracket**, support | |
| 7 | 98222018 | 4 | **Bolt**, fuel rail attaching | |
| 8 | RK120021 | 1 | **Spark Plug Wire Set** | |
| 9 | R088003 | 1 | **Regulator**, fuel pressure (‘03 Only) | |
| 10 | R020036 | 1 | **Sensor**, manifold absolute pressure (MAP) | |
| 11 | TBD | 1 | **Seal**, throttle body | |
| 12 | R062087A | 1 | **Plate**, throttle body adapter | |
| 13 | RM0251 | 1 | **Gasket**, throttle body | |
| 14 | RA035041 | 1 | **Throttle Body Assembly** | |
| 15 | L00918 | 3 | **Nut**, throttle body attaching | |
| 16 | R002025 | 1 | **Intake Manifold** | |
| 17 | RA087008 | 8 | **Fuel Injector Assembly** | |
| 18 | R127097 | 8 | **Retainer**, fuel injector | |
| 19 | RS5126 | 2 | **Bolt**, coil bracket attaching | |
| 20 | 98223016 | 2 | **Bolt**, coil bracket attaching | |
| NI | 93920000 | 2 | **Lockwasher**, coil bracket attaching | |
| 21 | 91107075 | 16 | **Bolt**, ignition coil attaching | |
| 22 | RM0277 | 1 | **Gasket Set**, intake manifold | |
| 23 | R143154A | 2 | **Decal**, engine cover | |
| 24 | R086003 | 1 | **Fuel Rail**, 6.0L, (right) | |
| 25 | R086004 | 1 | **Fuel Rail**, 6.0L, w/regulator pocket (left) | |
| 25 | R086004A | 1 | **Fuel Rail**, 6.0L, w/o regulator pocket (left) | |
| 26 | RA085103 | 1 | **Fuel Rail**, 6.0L, crossover | |
| 27 | R036007 | 8 | **Insert**, threaded, intake | |
| 28 | RS3550 | 1 | **Plug**, pipe, 1/4” NPT | |

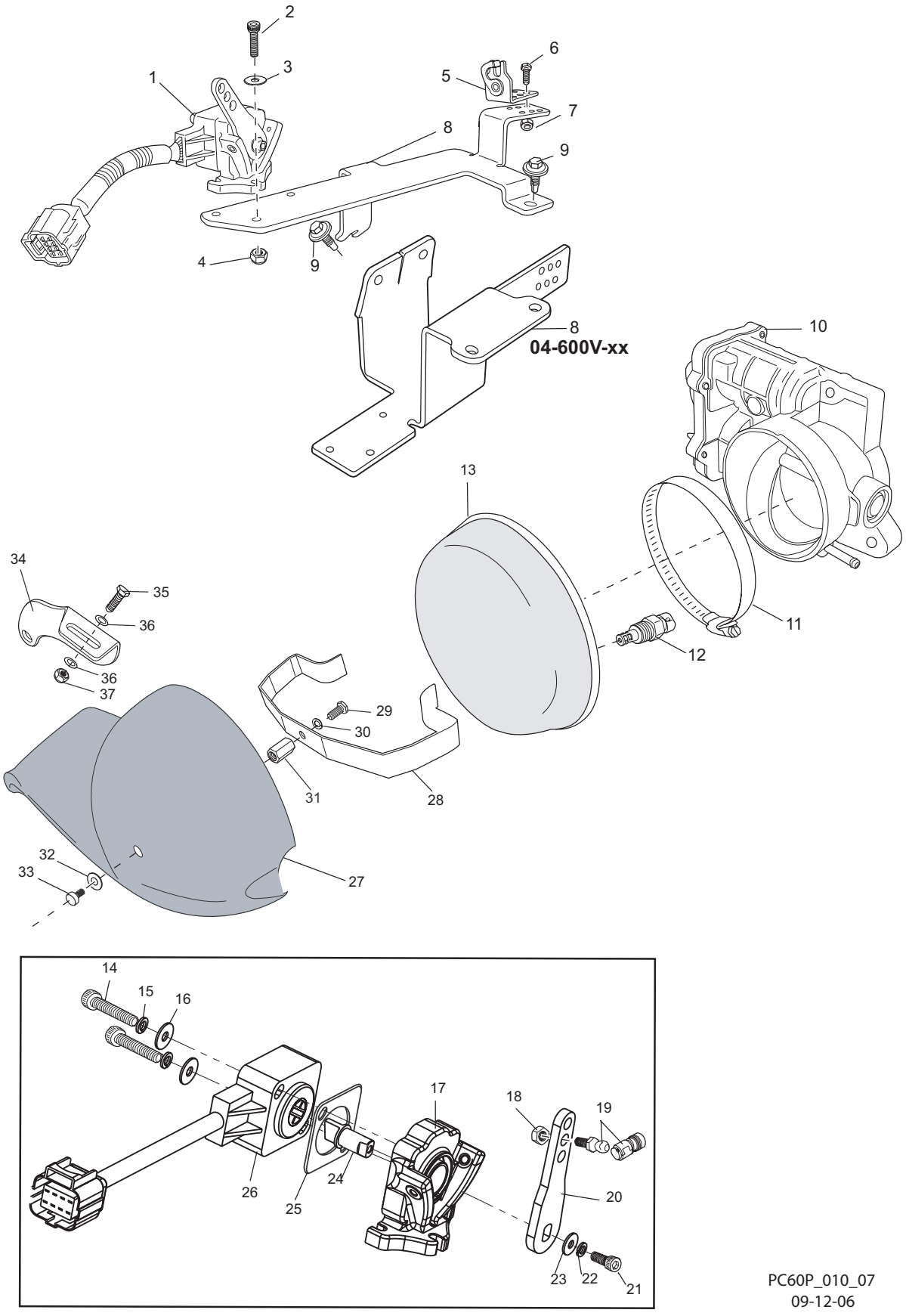
## OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5



## OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R041079 | 1 | **Tube**, oil dipstick | |
| 2 | R041080 | AR | **Dipstick**, oil level (0 to 4 degree) | |
| 2 | R041081 | AR | **Dipstick**, oil level (12 degree) | |
| 3 | RS0302 | 1 | **Bolt**, oil dipstick tube attaching | |
| 4 | R127015 | 1 | **Clamp**, oil dipstick tube attaching | |
| 5 | RS2180 | 1 | **Lockwasher**, oil dipstick tube attaching | |
| 6 | RS1028 | 1 | **Nut**, oil dipstick tube attaching | |
| 7 | TBD | 1 | **Bolt**, engine rear cover attaching | |
| 8 | R047236 | 1 | **Seal**, engine rear cover oil | |
| 9 | TBD | 1 | **Cover**, engine rear | |
| 10 | R074030 | 1 | **Tube**, oil pickup | |
| 11 | RM0279 | 1 | **Gasket**, oil pan | |
| 12 | R005025 | 1 | **Oil Pan** | |
| 13 | TBD | 2 | **Bolt**, oil sending unit adapter attaching | |
| 14 | R079071 | 1 | **Adapter**, oil sending unit | |
| 15 | RM0284 | 1 | **Gasket**, oil sending unit adapter | |
| 16 | TBD | 2 | **Bolt**, oil pan attaching (long) | |
| 17 | R024213 | 1 | **Fitting**, oil drain | |
| 18 | R045049 | AR | **Hose**, oil drain | |
| 19 | R024061 | 1 | **Fitting**, oil drain | |
| 20 | R024066A | 1 | **Cap**, oil drain | |
| 21 | R190123 | 1 | **Hook**, oil drain hose | |
| 22 | TBD | 12 | **Bolt**, oil pan attaching (short) | |
| 23 | TBD | 1 | **Nut**, oil pickup tube attaching | |
| 24 | TBD | 1 | **Bolt**, oil pickup tube attaching | |
| 25 | TBD | 10 | **Nut**, windage tray attaching | |
| 26 | TBD | 1 | **O-ring**, oil pickup tube | |
| 27 | R012027 | 1 | **Tray**, windage | |
| 28 | TBD | 4 | **Bolt**, oil pump attaching | |
| 29 | RA070018 | 1 | **Oil Pump Assembly** | |
| 30 | TBD | 1 | **Drive**, oil pump | |

# THROTTLE BODY and RELATED COMPONENTS - FIGURE 6

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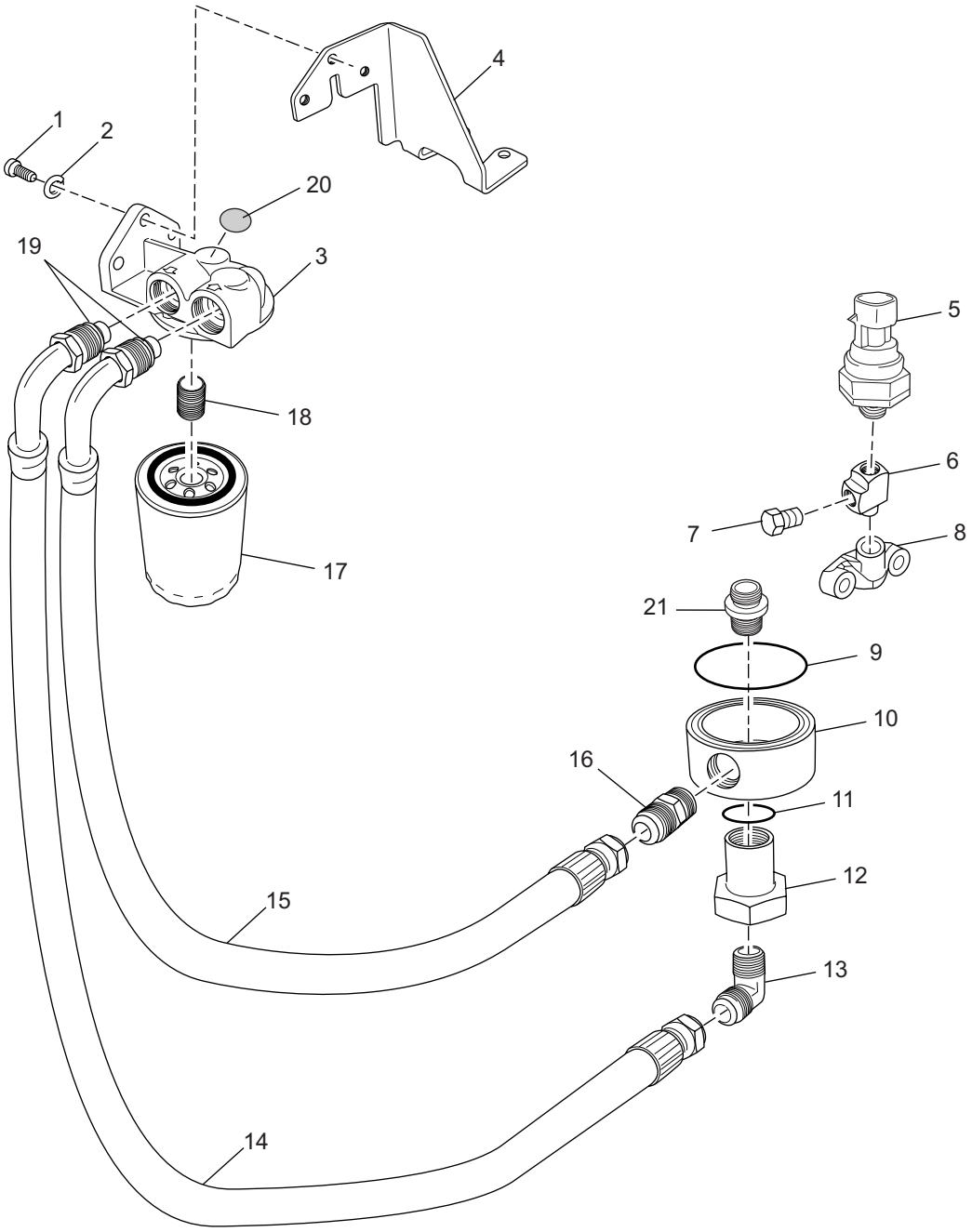
# THROTTLE BODY and RELATED COMPONENTS - FIGURE 6

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | RA119005 | 1 | **Throttle Control Position (TCP) Sensor Assembly** | |
| 2 | 91864075 | 3 | **Bolt**, TCP Sensor Assembly attaching | |
| 3 | 92004000 | 3 | **Washer**, flat, TCP Sensor Assembly attaching | |
| 4 | RS2052 | 3 | **Nut**, TCP Sensor Assembly attaching | |
| 5 | R090086 | 1 | **Cable Clip**, throttle | |
| 6 | RS5122 | 2 | **Bolt**, cable clip attaching | |
| 7 | RS2050 | 2 | **Nut**, cable clip attaching | |
| 8 | R090321B | 1 | **Bracket**, TCP Assembly/Throttle Clip | |
| 8 | R090267C | 1 | **Bracket**, TCP Assembly/Throttle Clip/Degas Bottle | 04-600V-xx |
| 9 | 98222018 | 2 | **Bolt**, TCP/Throttle Clip bracket attaching | |
| 10 | RA035041 | 1 | **Throttle Body Assembly** | |
| 11 | RS3857 | 1 | **Clamp**, flame arrestor | |
| 12 | NSS | 1 | **Air Temp Sensor** (order R145026B) | |
| 13 | R145026B | 1 | **Arrestor**, flame | |
| 14 | 91064125 | 2 | **Bolt**, TCP Sensor attaching | |
| 15 | 93040000 | 2 | **Lock Washer**, TCP Sensor attaching | |
| 16 | 92004000 | 2 | **Flat Washer**, TCP Sensor attaching | |
| 17 | R109053A | 1 | **Plate Assembly**, TCP Sensor | |
| 18 | RS1568 | 1 | **Nut**, ball joint attaching | |
| 19 | R178003 | 1 | **Ball Joint Assembly** | |
| 20 | R081009 | 1 | **Arm**, TCP Sensor | |
| 21 | 91864050 | 1 | **Bolt**, TCP Sensor arm attaching | |
| 22 | 94854500 | 1 | **Lock Washer**, TCP Sensor arm attaching | |
| 23 | 94004200 | 1 | **Flat Washer**, TCP Sensor arm attaching | |
| 24 | R058071 | 1 | **Shaft**, TCP Sensor | |
| 25 | R062090 | 1 | **Spacer**, TCP support | |
| 26 | R119005 | 1 | **TCP Sensor** | |
| 27 | R060069 | 1 | **Cover**, flame arrestor | |
| 28 | R090342 | 1 | **Bracket**, flame arrestor cover, upper | |
| 29 | RS6502 | 1 | **Bolt,** cover mount attaching, upper (use removable locktite) | |
| 30 | 93920000 | 1 | **Lockwasher**, cover mount attaching, upper | |
| 31 | R017082 | 1 | **Coupling**, nut cover mount, upper | |
| 32 | R096143 | 1 | **Washer,** cover attaching, upper | |
| 33 | R175055 | 1 | **Bolt,** cover attaching, upper (use removable locktite) | |
| 34 | R090340 | 1 | **Bracket**, cover flame arrestor, lower | |
| 35 | RS5122 | 1 | **Bolt**, cover attaching, lower | |
| 36 | 92004000 | 2 | **Washer,** cover attaching, lower | |
| 37 | RS2055 | 1 | **Nut**, Nylock, cover attaching, lower | |

## REMOTE OIL FILTER COMPONENTS (STANDARD DRIVE) - FIGURE 7

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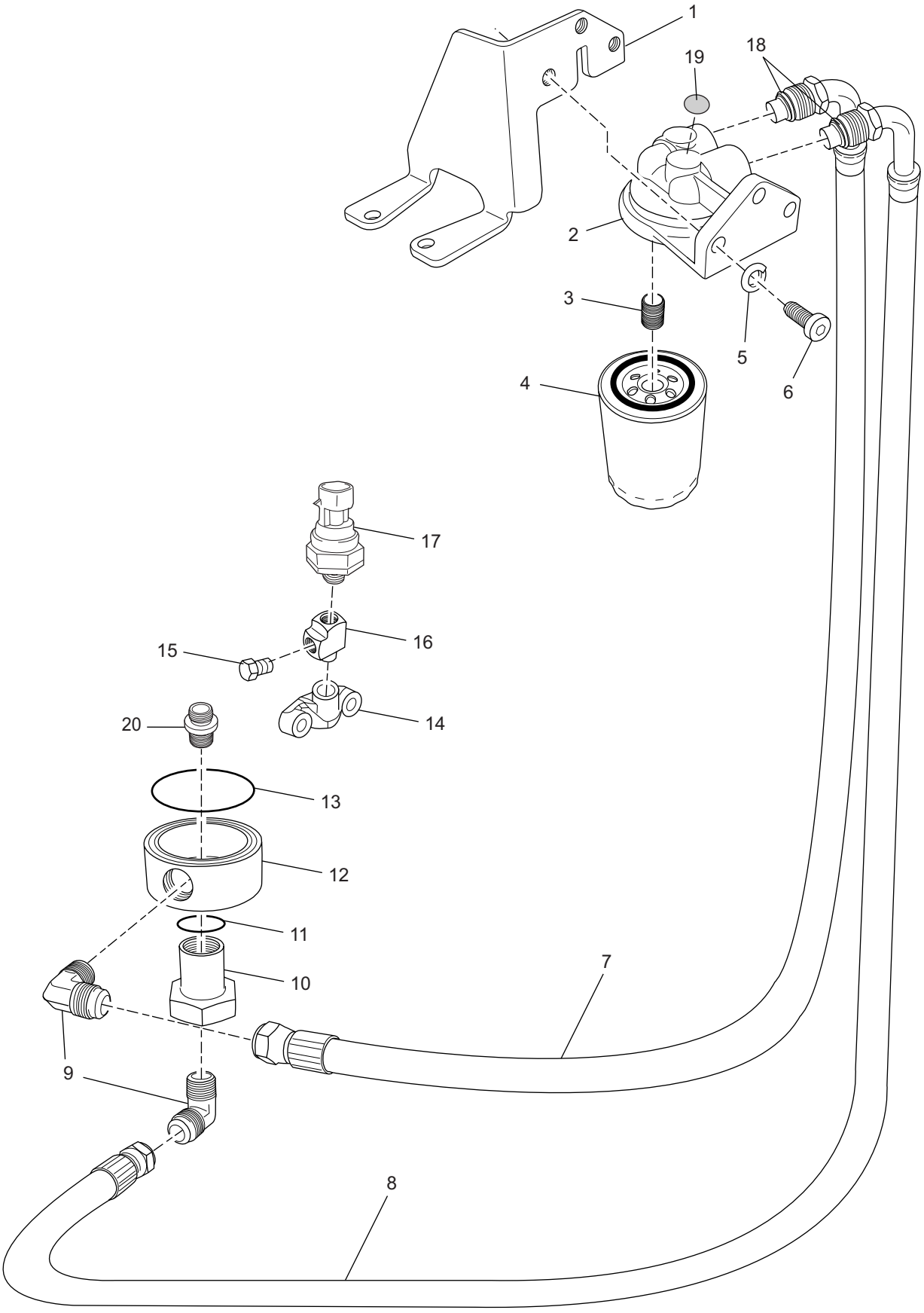
# REMOTE OIL FILTER COMPONENTS (STANDARD DRIVE) - FIGURE 7

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | 99333020 | 3 | **Bolt**, oil filter header mounting | |
| 2 | RS2179 | 3 | **Lockwasher**, oil filter header mounting | |
| 3 | R079066 | 1 | **Oil Filter Header** | |
| 4 | R090275 | 1 | **Bracket**, oil filter header mounting | |
| 5 | R020049 | 1 | **Sender**, oil pressure | |
| 6 | R024145 | 1 | **Tee**, sender attaching | |
| 7 | RS3554 | 1 | **Plug**, oil pressure sensor tee | |
| 8 | R079071 | 1 | **Adapter**, oil sending unit | |
| 9 | R047240 | 1 | **O-ring**, oil bypass adapter | |
| 10 | R079067 | 1 | **Adapter**, oil bypass | |
| 11 | R047202 | 1 | **O-ring**, oil bypass adapter attaching fitting | |
| 12 | R079068 | 1 | **Nut**, oil bypass adapter attaching | |
| 13 | R024184 | 1 | **Fitting**, 90 degree | |
| 14 | R045120D | 1 | **Hose Assembly**, filter header to bypass adapter | |
| 15 | R045120D | 1 | **Hose Assembly**, bypass adapter to filter header | |
| 16 | R024148 | 1 | **Fitting**, straight | |
| 17 | R077001 | 1 | **Filter**, oil | |
| 18 | R024203 | 1 | **Nipple**, header filter adapter | |
| 19 | R047245 | 2 | **O-Ring**, oil line | |
| 20 | R143175 | 1 | **Decal**, “CAUTION HOT” | |
| 21 | R079074 | 1 | **Adapter**, engine to oil bypass | |

REMOTE OIL FILTER COMPONENTS (“V” - DRIVE) - FIGURE 8

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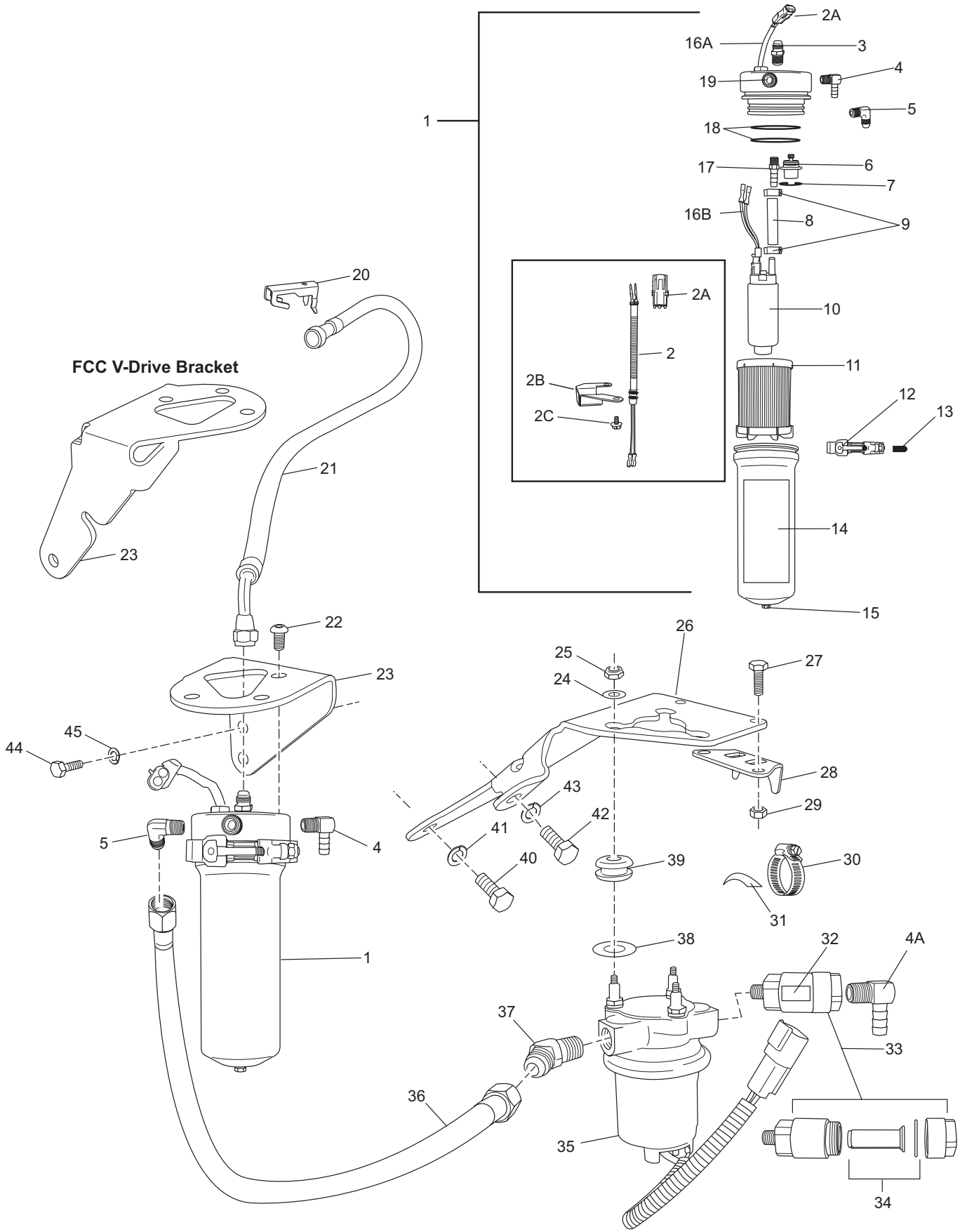
# REMOTE OIL FILTER COMPONENTS (“V” - DRIVE) - FIGURE 8

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R090275 | 1 | **Bracket**, oil filter header mounting | |
| 2 | R079066 | 1 | **Oil Filter Header** | |
| 3 | R024203 | 1 | **Nipple**, header filter adapter | |
| 4 | R077001 | 1 | **Filter**, oil | |
| 5 | RS2179 | 3 | **Lockwasher**, oil filter header mounting | |
| 6 | 99333020 | 3 | **Bolt**, oil filter header mounting | |
| 7 | RA045120 | 1 | **Hose Assembly**, bypass adapter to filter header | |
| 8 | RA045120 | 1 | **Hose Assembly**, filter header to bypass adapter | |
| 9 | R024184 | 2 | **Fitting**, 90 degree | |
| 10 | R079068 | 1 | **Fitting**, oil bypass adapter attaching | |
| 11 | R047202 | 1 | **O-ring**, oil bypass adapter attaching fitting | |
| 12 | R079067 | 1 | **Adapter**, oil bypass | |
| 13 | R047240 | 1 | **O-ring**, oil bypass adapter | |
| 14 | R079071 | 1 | **Adapter**, oil sending unit | |
| 15 | RS3554 | 1 | **Plug**, oil pressure sensor tee | |
| 16 | R024145 | 1 | **Tee**, sender attaching | |
| 17 | R020049 | 1 | **Sender**, oil pressure | |
| 18 | R047245 | 2 | **O-Ring**, oil line | |
| 19 | R143175 | 1 | **Decal**, “CAUTION HOT” | |
| 20 | R079074 | 1 | **Adapter**, engine to oil bypass | |

# FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 9

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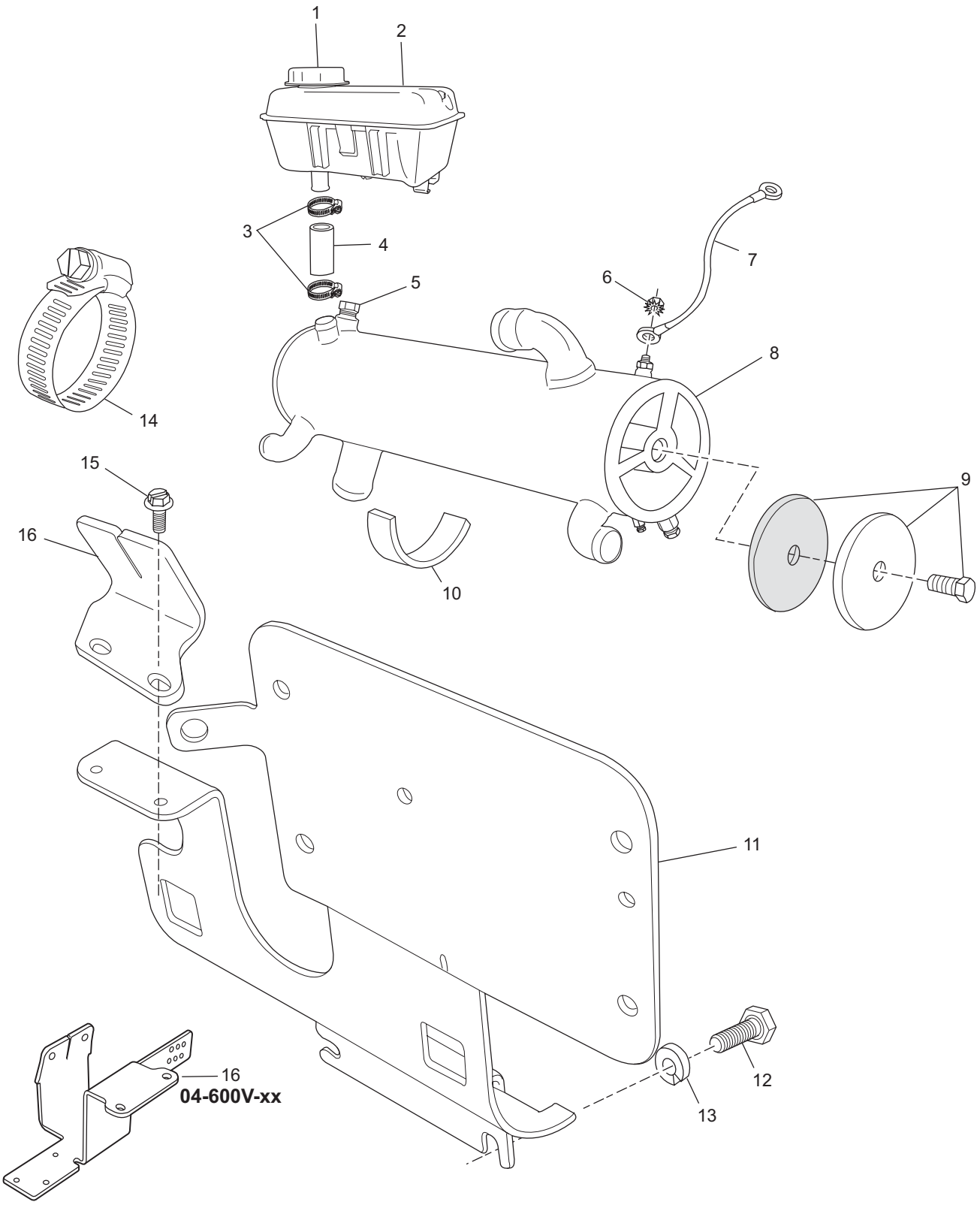
# FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 9

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | RA080030A | 1 | **Fuel Control Cell Assembly** | |
| 2 | R1210085B | 1 | **Harness**, 1-piece, FCC pass through (1-piece harness **does not** retro fit for 2-piece harness) | |
| 2A | 7172040 | 1 | **Connector**, W/P 2-way Female | |
| 2B | R012030 | 1 | **Baffle**, FCC used w/1-piece harness | |
| 2C | 91620025 | 2 | **Screw**, self tapping, baffle/1-piece harness retaining | |
| 3 | R024175 | 1 | **Fitting**, 1/4 NPT X SAE | |
| 4 | R024225 | 1 | **Fitting**, 1/4 NPT to Hose (return to tank) | |
| 4A | R024226 | 1 | **Fitting**, 3/8 NPT to Hose (to tank) | |
| 5 | R024163 | 1 | **Fitting**, 1/4 NPT X SAE (from LPFP) | |
| 6 | R088004 | 1 | **Regulator**, fuel pressure (FCC System Only) | |
| 7 | R048070 | 1 | **Retainer**, fuel pressure regulator | |
| 8 | R045098B | 1 | **Hose**, 5/16id X 1/2od X 2 1/2 | |
| 9 | R127087 | 2 | **Clamp**, Oetiker, 5/8 | |
| 10 | RA080027 | 1 | **Pump**, high pressure fuel | |
| 11 | R080026 | 1 | **Filter**, fuel (FCC) | |
| NI | RP080026 | 1 | **Kit**, FCC filter and O-rings | |
| 12 | R171010 | 1 | **Clamp**, FCC | |
| 13 | R128002 | 1 | **Cover**, T-bolt end | |
| 14 | R143112A | 1 | **Decal**, FCC | |
| 15 | RS3554 | 1 | **Plug**, pipe, hex head, 1/8 | |
| 16A | RA121060 | 1 | **Harness**, FCC Feed through | |
| 16B | RA121061A | 1 | **Harness**, FCC internal | |
| 17 | R024219 | 1 | **Fitting**, 1/8 NPT X 5/16 Barb | |
| 18 | R047241 | 1 | **O-Ring**, FCC sealing | |
| 19 | RS3550 | 1 | **Plug**, pipe, hex socket, 1/4 | |
| 20 | R127100 | 1 | **Retainer**, fuel line | |
| 21 | RA085090C | 1 | **Hose Assembly**, FCC to fuel rail (inlet) | |
| 21 | RA085090D | 1 | **Hose Assembly**, FCC to fuel rail (inlet), V-DRIVE | |
| 22 | 90384075 | 3 | **Bolt**, FCC attaching | |
| 23 | R090276 | 1 | **Bracket**, FCC mounting | |
| 23 | R090277 | 1 | **Bracket**, FCC mounting, V-DRIVE | |
| 24 | R096142 | 3 | **Washer**, flat, mounting, upper | |
| 25 | RS1521L | 3 | **Locking Nut**, low-pressure fuel pump | |
| 26 | R090286 | 1 | **Bracket**, low-pressure fuel pump mounting | |
| 27 | RS0251 | 2 | **Bolt**, pre-filter bracket attaching | |
| 28 | R090272 | 1 | **Bracket**, pre-filter mounting | |
| 29 | RS1078 | 2 | **Nut**, w/lockwasher, pre-filter bracket attaching | |
| 30 | RS3858 | 1 | **Clamp**, pre-filter 1 ¼” | |
| 31 | R094040 | 1 | **Isolator**, rubber, w/ adhesive | |
| 32 | R143174 | 1 | **Decal**, pre-filter | |
| 33 | RA077014 | 1 | **Fuel Pre-filter Assembly, 150 micron** | |
| 34 | RP077014 | 1 | **Kit,** fuel filter and seal | |
| 35 | RA080018 | 1 | **Fuel Pump**, low-pressure | |
| 36 | RA085071 | 1 | **Hose Assembly**, low-pressure pump to FCC | |
| 37 | R024197 | 1 | **Fitting**, 45 degree | |
| 37 | R024163 | 1 | **Fitting**, 90 degree, V-DRIVE | |
| 38 | R096141 | 3 | **Washer**, fuel pump mounting, lower | |
| 39 | R094035A | 3 | **Grommet**, isolator | |
| 40 | 98443025 | 1 | **Bolt**, LPFP bracket attaching, block | |
| 41 | 93940000 | 1 | **Lockwasher**, LPFP bracket attaching, block | |
| 42 | 98443030 | 1 | **Bolt**, LPFP bracket attaching, mount | |
| 43 | 93940000 | 1 | **Lockwasher**, LPFP bracket attaching, mount | |
| 44 | 98443025 | 2 | **Bolt**, FCC mounting bracket | |
| 45 | 93940000 | 2 | **Lockwasher**, FCC mounting bracket | |
| NI | R143114 | 1 | **Decal**, Warning, fuel leaks | |

## HEAT EXCHANGER and COMPONENTS - FIGURE 10

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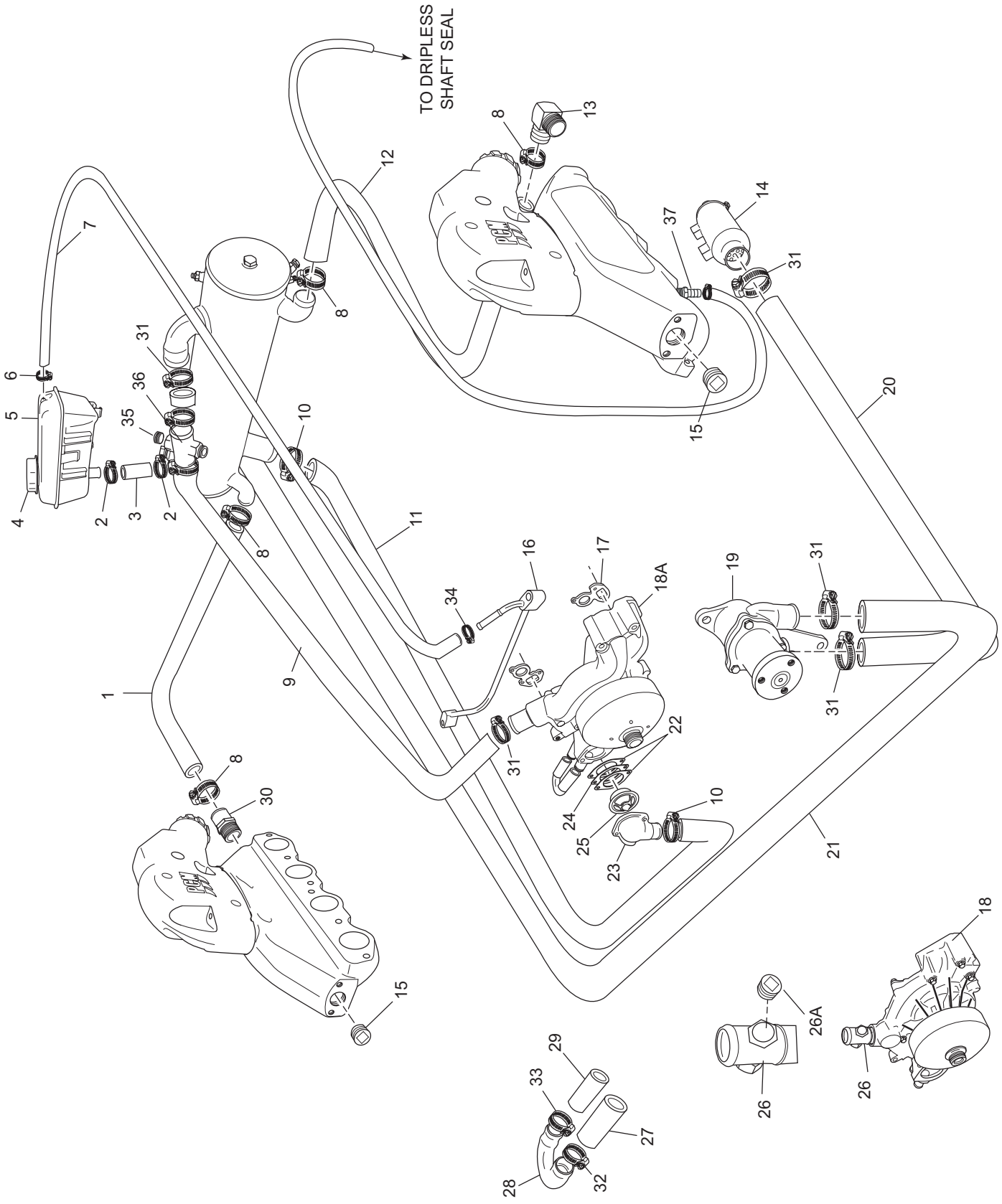
## HEAT EXCHANGER and COMPONENTS - FIGURE 10

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R034045 | 1 | **Cap**, degas bottle | |
| 2 | R146001 | 1 | **Bottle**, degas | |
| NI | R143152 | 1 | **Decal**, 6.0L specification | |
| NI | R143153 | 1 | **Decal**, coolant fill | |
| 3 | RS3872 | 2 | **Clamp**, hose | |
| 4 | R045153 | 1 | **Hose**, degas bottle to heat exchanger | |
| 4 | R045161 | 1 | **Hose**, degas bottle to heat exchanger | 04-600V-xx |
| 5 | R168008 | AR | **Anode**, sacrificial zinc | |
| 6 | RS1078 | 1 | **Nut**, ground wire stud | |
| 7 | R101013 | 1 | **Wire**, grounding | |
| 8 | RA147047 | 1 | **Heat Exchanger Assembly** | |
| 9 | R034009 | AR | **End Cap** , exchanger | |
| 10 | R094040 | 2 | **Isolator**, rubber | |
| 11 | R090279A | 1 | **Bracket**, heat exchanger | |
| 12 | RS0304 | 2 | **Bolt**, heat exchanger bracket attaching | |
| 13 | RS2380 | 2 | **Lockwasher**, mounting bolt | |
| 14 | RS3857 | 2 | **Clamp**, exchanger mounting | |
| 15 | 91107075 | 2 | **Bolt**, degas bottle bracket attaching | |
| 16 | R090274A | 1 | **Bracket**, degas bottle mounting | |
| 16 | R090267C | 1 | **Bracket**, degas bottle/TCP mounting | **04-600V-xx** |
| NI | R143155 | 1 | **Decal**, Protective Anode | |
| NI | R143156 | 1 | **Decal**, Raw Water Drain | |
| NI | R143157 | 1 | **Decal**, Fresh Water Drain | |
| NI | R143183-07 | 1 | **Decal**, 6.0 Emission MY ‘07 | |
| NI | R143158 | 1 | **Decal**, “Ultra Low Emission” | |

# FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 11

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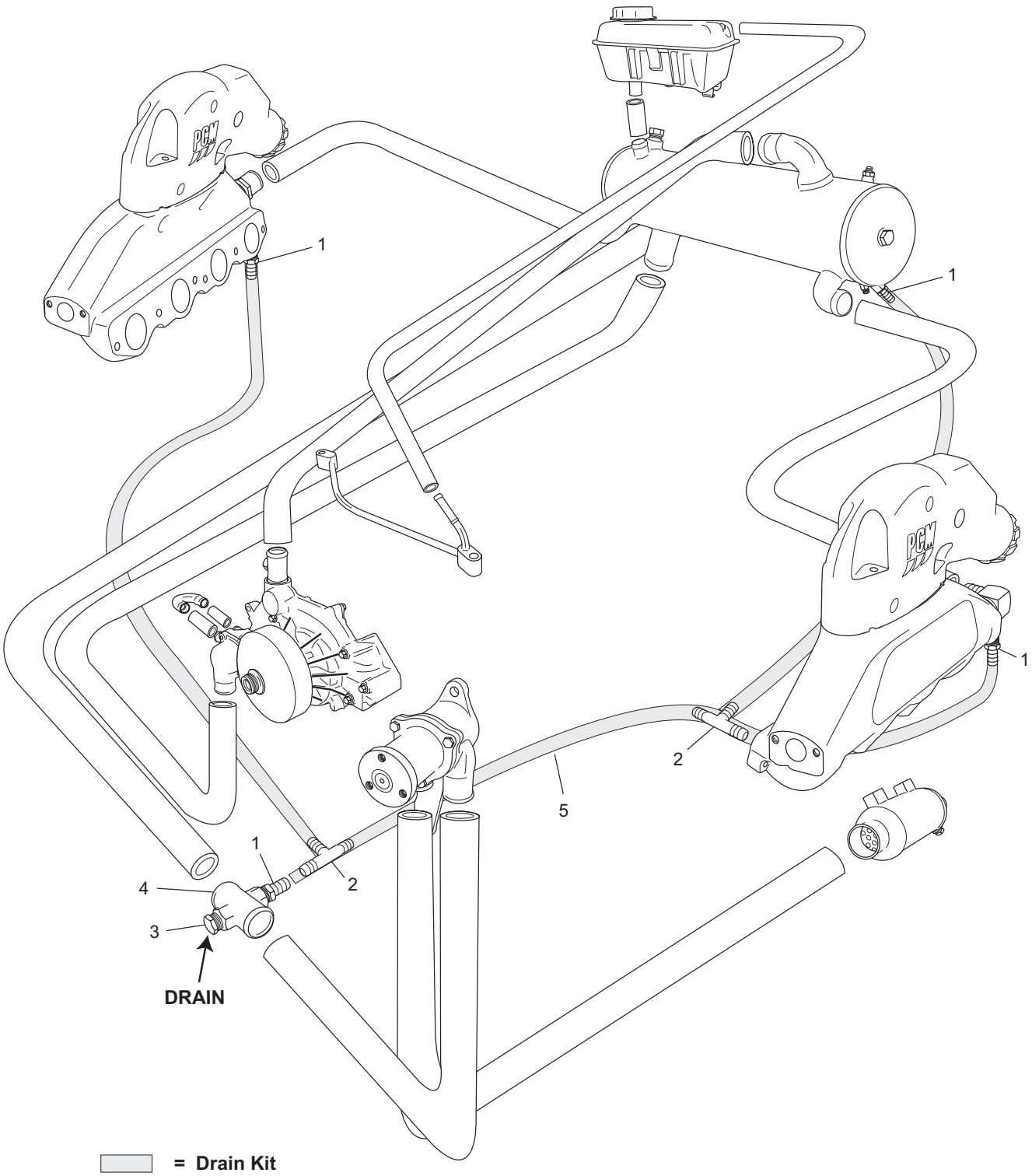
# FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 11

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R045151 | 1 | **Hose**, exchanger to exhaust manifold (Starboard STD) | |
| 2 | RS3872 | 2 | **Clamp**, hose | |
| 3 | R045153 | 1 | **Hose**, degas bottle to heat exchanger | |
| 3 | R045161 | 1 | **Hose**, degas bottle to heat exchanger | 04-600V-xx |
| 4 | R034045 | 1 | **Cap**, degas bottle | |
| 5 | R146001 | 1 | **Bottle**, degas | |
| 6 | R127087 | 1 | **Clamp**, hose (5/8" - degas bottle) | |
| 7 | R045132 | 1 | **Hose**, coolant air bleed to bottle | |
| 8 | RS3851 | 4 | **Clamp**, hose (1") | |
| 9 | R045149 | 1 | **Hose**, circ. pump to heat exchanger | |
| 9 | R045149A | 1 | **Hose**, circ. pump to heat exchanger **(S/N 470419 and above)** | |
| 10 | RS3868 | 2 | **Clamp**, hose (1 1/2") | |
| 11 | R045148 | 1 | **Hose**, exchanger to thermostat housing | |
| 12 | R045150 | 1 | **Hose**, exchanger to exhaust manifold (Port STD) | |
| 13 | R024006A | 1 | **Fitting**, 90 degree | |
| 14 | R147014 | 1 | **Cooler**, transmission oil | |
| 15 | 113186 | 2 | **Plug**, manifold | |
| 16 | TBD | 1 | **Tube**, coolant air bleed | |
| 17 | RM0281 | 2 | **Gasket**, water pump to engine block | |
| 18 | RK057033B | 1 | **Water Circulation Pump Assembly** | |
| 18A | RA057036 | 1 | **Water Circulation Pump Assembly (S/N 470419 and above)** | |
| 19 | RA057032 | 1 | **Raw Water Pump** | |
| 20 | 18401 | 1 | **Hose**, oil cooler to raw water pump (cut-to-fit) | |
| 21 | R045147 | 1 | **Hose**, raw water pump to exchanger | |
| 22 | RM0275 | 2 | **Gasket**, thermostat housing | |
| 23 | R025036 | 1 | **Thermostat Housing** | |
| 24 | R109051 | 1 | **Plate**, thermostat retainer | |
| 25 | R026002 | 1 | **Thermostat**, (160 degree) | |
| 26 | R024208 | 1 | **Water Neck** | |
| 26A | RS3551 | 2 | **Plug**,water neck | |
| 27 | R045153 | 1 | **Hose**, coolant bypass fitting (3/4" bulk) | |
| 28 | R024210 | 1 | **Bypass**, coolant | |
| 29 | R045086 | 1 | **Hose**, coolant bypass fitting (5/8" bulk) | |
| 30 | R024073 | 1 | **Fitting**, manifold straight | |
| 31 | RS3858 | 8 | **Clamp**, hose (1 1/4") | |
| 32 | R127087G | 2 | **Clamp**, hose (1 1/16" oetiker) | |
| 33 | R127087F | 2 | **Clamp**, hose (1" oetiker) | |
| 34 | R127084 | 1 | **Clamp**, hose (vent tube) | |
| 35 | RS3551 | 2 | **Plug**, 4-way fitting **(S/N 470419 and above)** | |
| 36 | R024216 | 1 | **Fitting**, 4-way **(S/N 470419 and above)** | |
| 37 | R024234 | 1 | **Fitting**, 3/8 NPT x 5/16 hose | 15-600V-02 |
| | | | **NOTE: For S/N 470419 and above, hose R045149A (item 9) is cut 4" from the Heat exchanger to allow for installation of R024216 (item 36).** | |

## OPTIONAL DRAIN KIT COMPONENTS - FIGURE 12

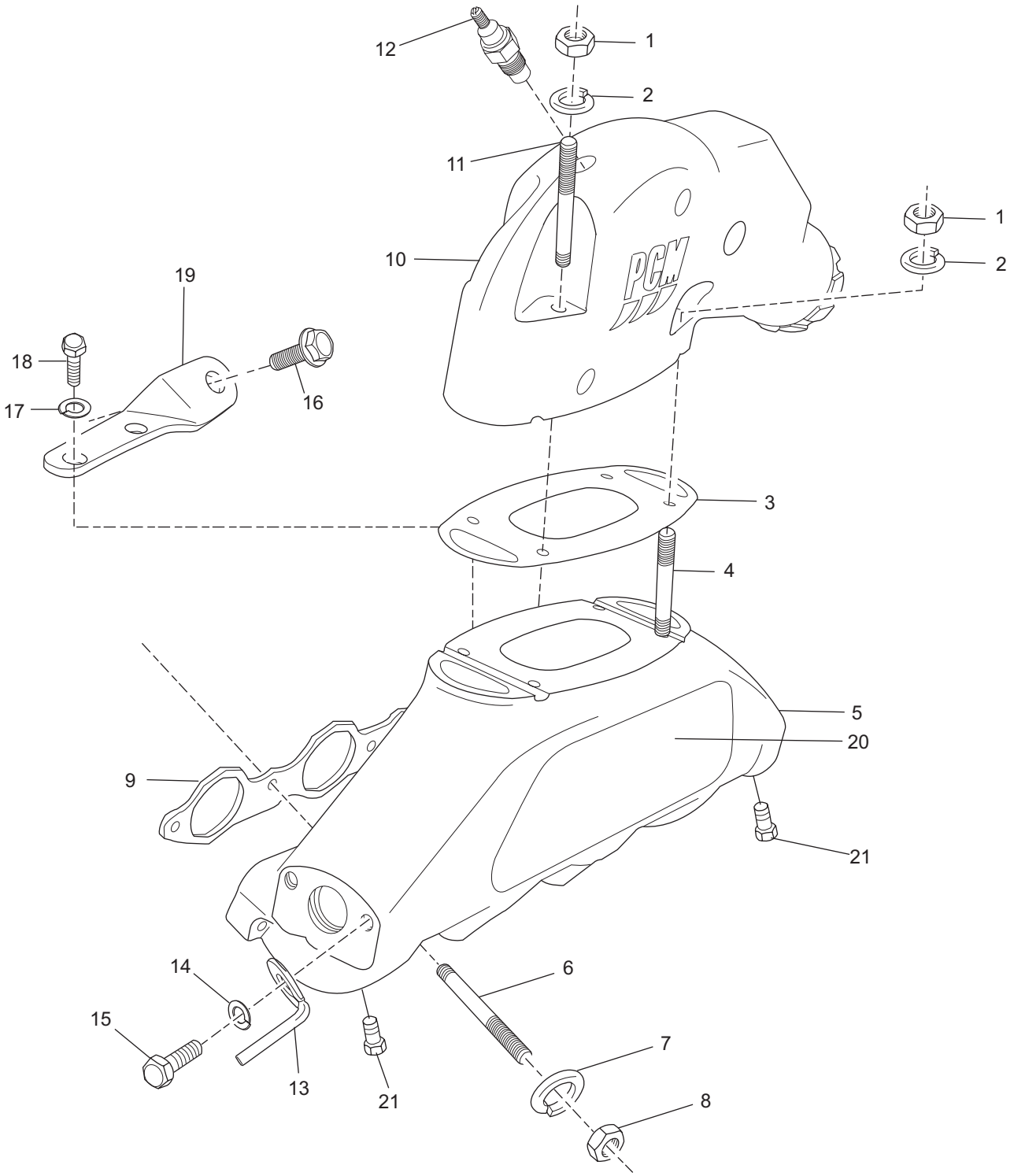



= **Drain Kit**
The drain kit does not ensure that all of the water will drain out of the system. Engine angle, routing of drain hose, and restricted drain fittings are some things that could prevent all of the water from draining completely.

## OPTIONAL DRAIN KIT COMPONENTS - FIGURE 12

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R024218 | 4 | **Fitting**, straight | |
| 2 | R024215 | 2 | **Tee**, hose | |
| 3 | RS3557 | 1 | **Plug**, drain | |
| 4 | R024216 | 1 | **Fitting**, 4-way RW drain | |
| 5 | R045175 | AR | **Hose**, RW drain | |
| NS | R127087G | 10 | **Clamp**, hose (1 1/16” oetiker) | |
| NS | R127087F | 2 | **Clamp**, hose (1” oetiker) | |

EXHAUST MANIFOLD and COMPONENTS - FIGURE 13

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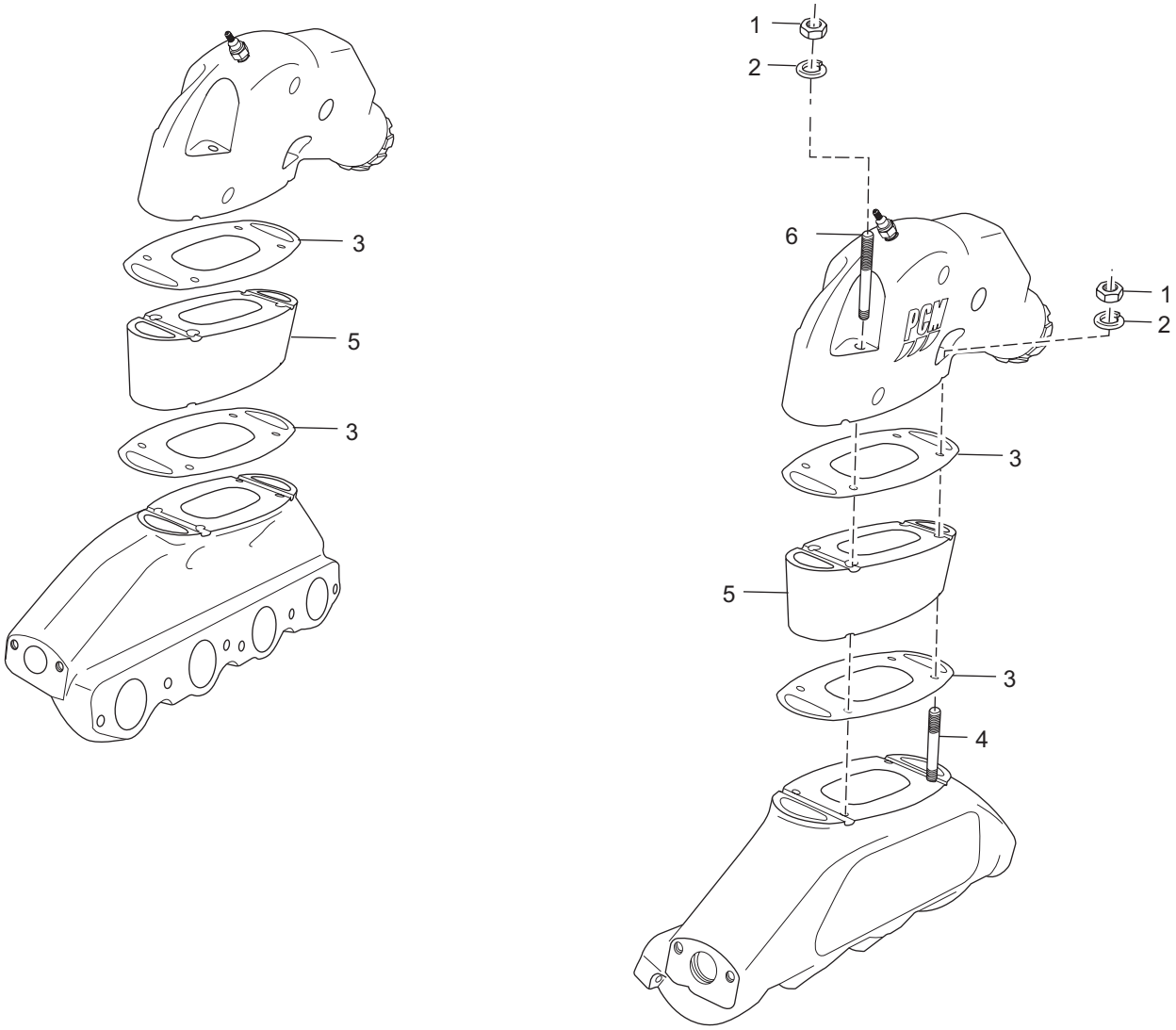
# EXHAUST MANIFOLD and COMPONENTS - FIGURE 13

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | 95310000 | 8 | **Nut**, exhaust elbow attaching | |
| 2 | 93300000 | 8 | **Lockwasher**, exhaust elbow attaching | |
| 3 | RM0274 | 2 | **Gasket**, manifold to exhaust elbow | |
| 4 | R031036 | 4 | **Stud**, exhaust elbow attaching (short) | |
| 4 | R031039 | AR | **Stud**, exhaust elbow attaching w/4” riser (short) | |
| 5 | R028023 | 2 | **Exhaust Manifold Assembly** | |
| 6 | R031035 | 12 | **Stud**, manifold to cylinder head attaching | |
| 7 | RS2179 | 12 | **Lockwasher**, manifold to cylinder head attaching | |
| 8 | RS7026 | 12 | **Nut**, manifold to cylinder head attaching | |
| 9 | RM0276 | 2 | **Gasket**, manifold to cylinder head | |
| 10 | R029016 | 2 | **Exhaust Elbow Assembly** | |
| 11 | R031037 | 4 | **Stud**, exhaust elbow attaching (long) | |
| 11 | R031040 | AR | **Stud**, exhaust elbow attaching w/4” riser (long) | |
| 12 | R020047 | 2 | **Switch**, exhaust temperature (optional) | |
| 13 | R096144 | 2 | **Retainer**, spark plug wire clip | |
| 14 | 922200020 | 2 | **Washer**, retainer attaching | |
| 15 | RS0280 | 2 | **Bolt**, retainer attaching | |
| 16 | 98222018 | 2 | **Bolt**, bracket attaching | |
| 17 | 93920000 | 4 | **Lockwasher**, bracket attaching | |
| 18 | 90165063 | 4 | **Bolt**, bracket attaching | |
| 19 | R090305 | 2 | **Bracket**, manifold support | |
| 20 | R143002F | 2 | **Decal**, exhaust manifold, 6.0L | |
| 21 | RS3557 | 4 | **Plug**, Hex Head, Brass 3/8” NPT | |
| | | | ***NOTE:** See Fresh Water Cooling section for parts used on Fresh Water Cooled engines. | |

## EXHAUST MANIFOLD 4” SPACER KIT COMPONENTS - FIGURE 14

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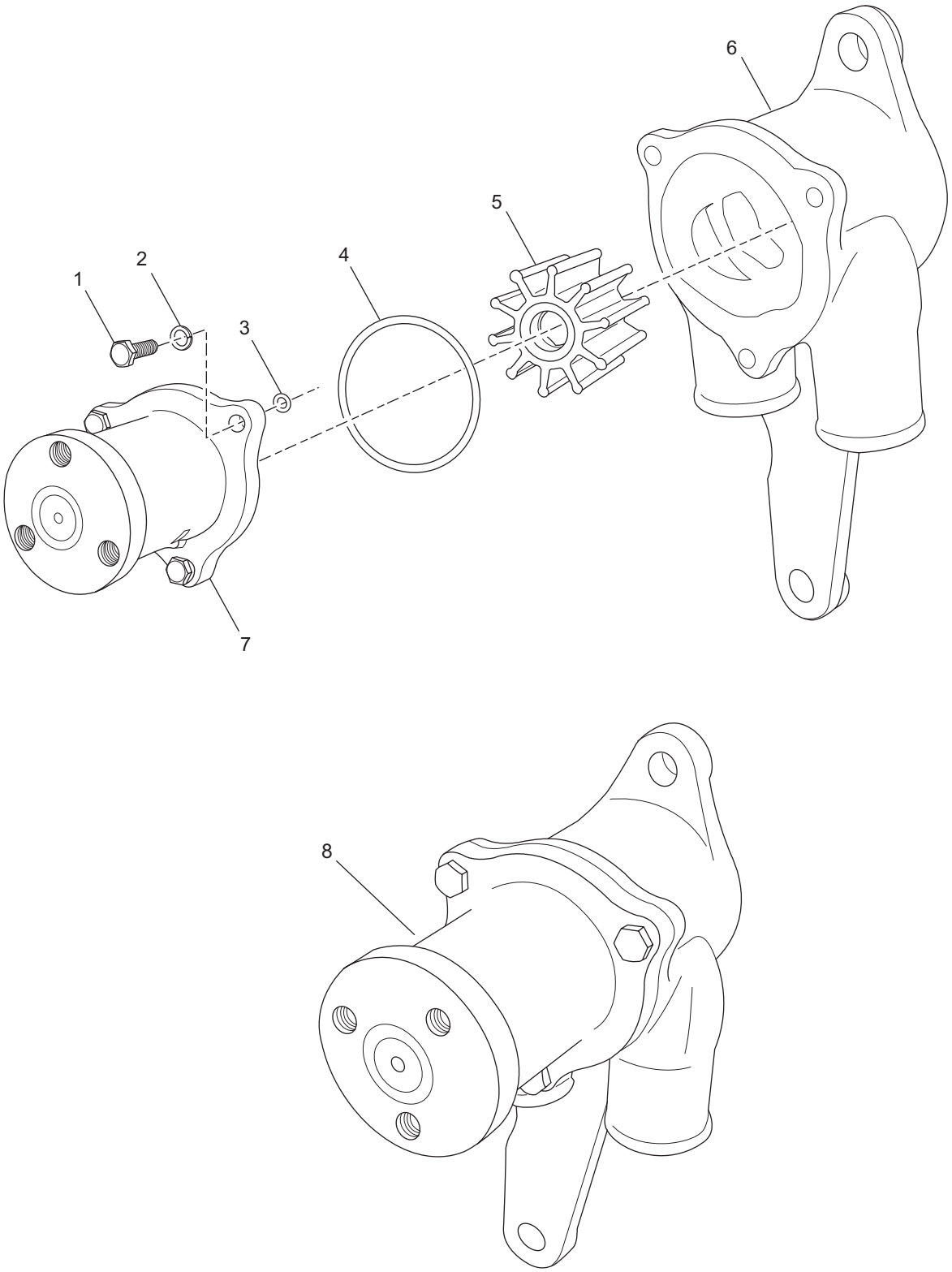
## EXHAUST MANIFOLD 4” SPACER KIT COMPONENTS - FIGURE 14

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | 95310000 | 8 | **Nut**, exhaust elbow attaching | 15-600V-XX |
| 2 | 93300000 | 8 | **Lockwasher**, exhaust elbow attaching | 15-600V-XX |
| 3 | RM0274 | 4 | **Gasket**, manifold/spacer and spacer/elbow | 15-600V-XX |
| 4 | R031039 | 4 | **Stud**, exhaust elbow attaching w/4” riser (short) | 15-600V-XX |
| 5 | R062086 | 2 | **Spacer**, 4” | 15-600V-XX |
| 6 | R031040 | 4 | **Stud**, exhaust elbow attaching w/4” riser (long) | 15-600V-XX |
| NI | RK062086 | AR | **Kit**, riser | 15-600V-XX |

# RAW WATER COOLING PUMP - FIGURE 15

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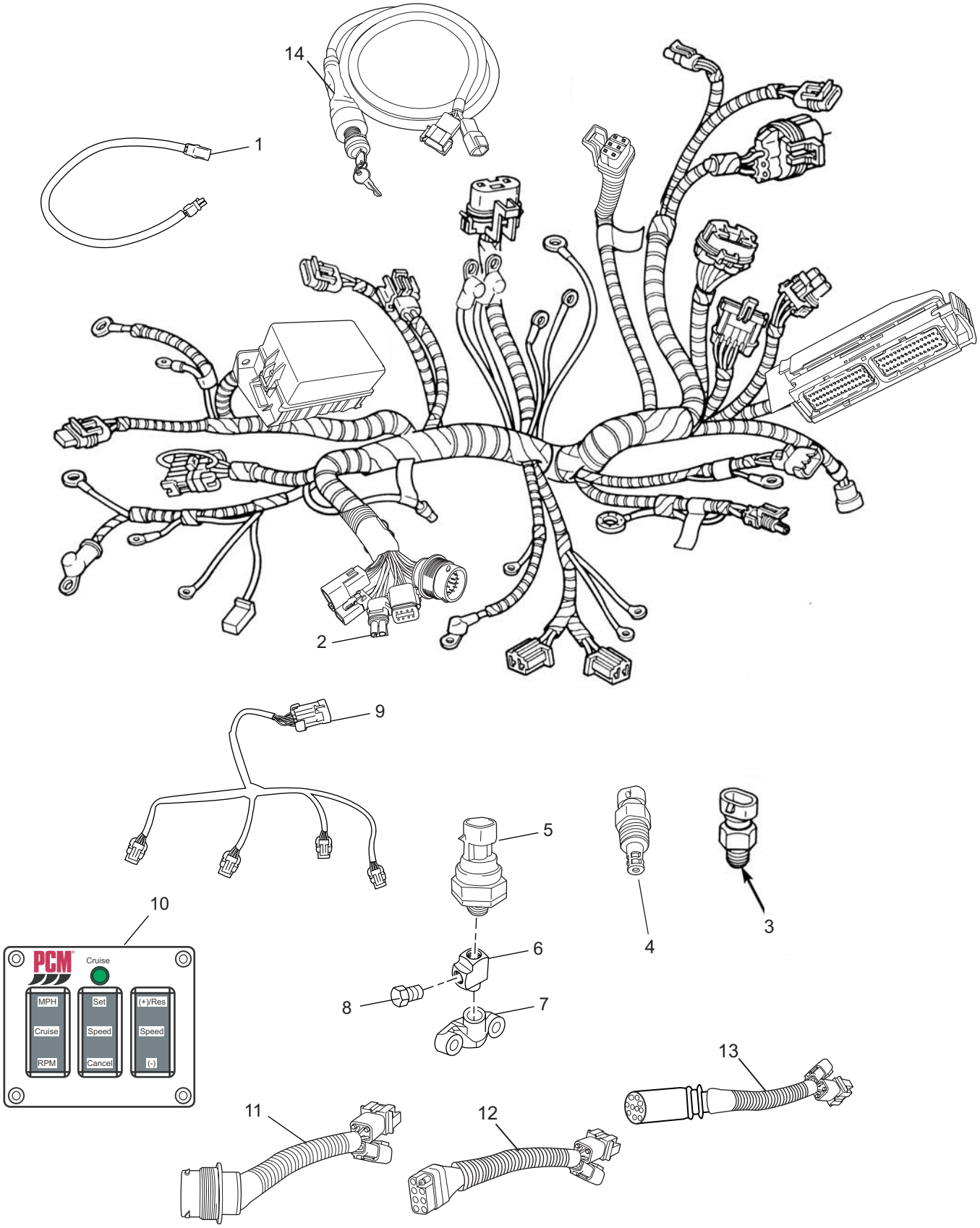
## RAW WATER COOLING PUMP - FIGURE 15

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | TBD | 3 | **Bolt,** bearing housing attaching | |
| 2 | TBD | 3 | **Lockwasher,** bearing housing attaching bolt | |
| 3 | R047243 | 3 | **O-ring,** bearing housing attaching bolt | |
| 4 | R047242 | 1 | **O-ring,** bearing housing attaching | |
| 5 | RP061022 | 1 | **Impeller** | |
| 6 | R057032 | 1 | **Housing,** raw water pump | |
| 7 | RA134071 | 1 | **Bearing Housing Assembly** | |
| 8 | RA057032 | 1 | **Raw Water Pump Assembly** | |

# WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 16

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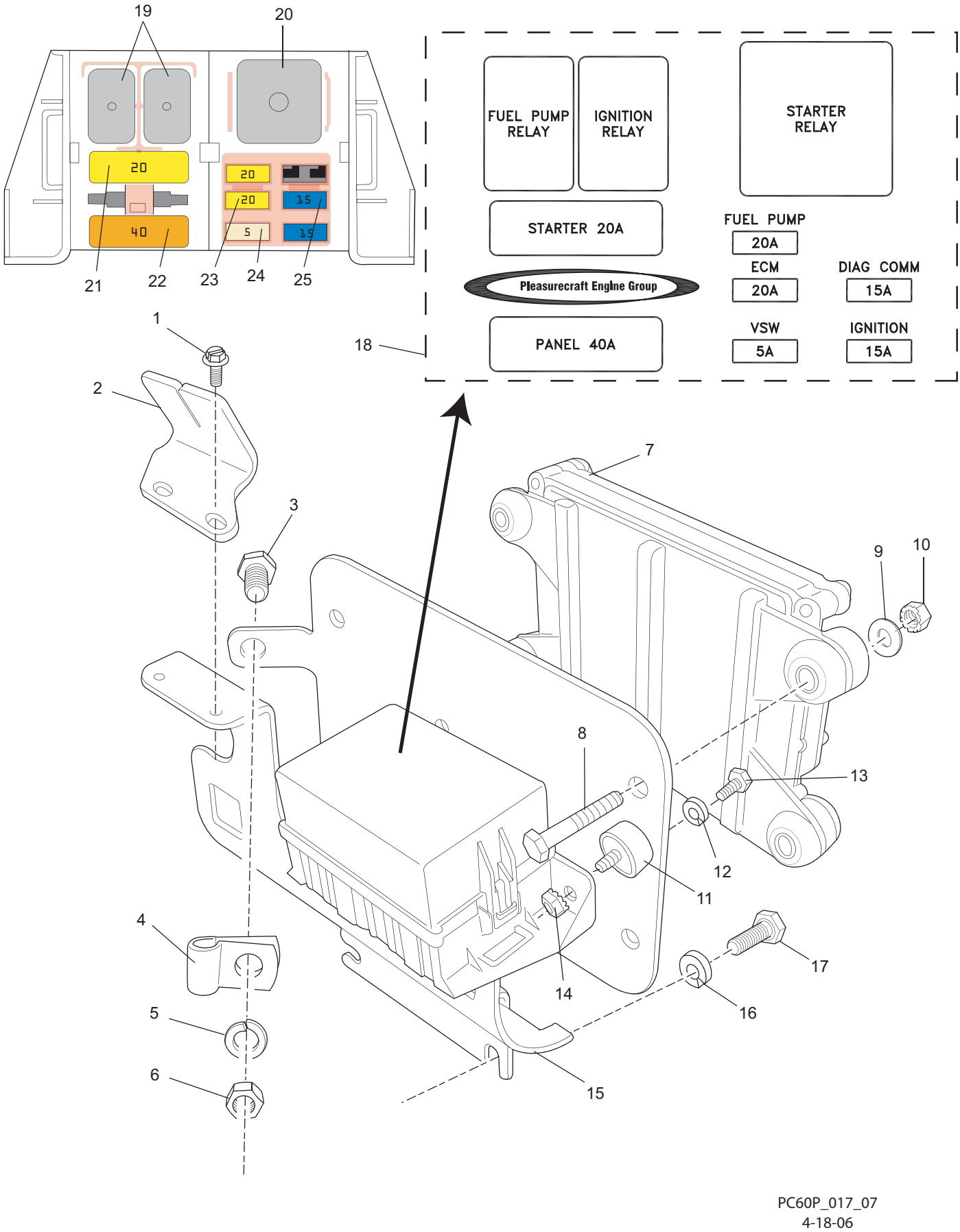
## WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 16

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R121078 | AR | **Harness**, FCC (“V” - Drive) | |
| 2 | RA121088 | 1 | **Engine Wiring Harness Assembly** (‘07) | |
| 3 | R020046 | 1 | **Sensor**, engine coolant temperature (ECT) | |
| 4 | R020032 | 1 | **Sensor**, inlet air | |
| 5 | R020049 | 1 | **Sender**, oil pressure | |
| 6 | R024145 | 1 | **Tee**, sender attaching | |
| 7 | R079071 | 1 | **Adapter**, oil sending unit | |
| 8 | RS3554 | 1 | **Plug**, oil pressure sensor tee | |
| 9 | TBD | 2 | **Harness**, ignition coil | |
| 10 | RA152008 | AR | **Panel**, switch (Speed Control) | |
| 11 | RA121098 | AR | **Harness**, Adapter to 14-pin boat harness | |
| 12 | RA121094 | AR | **Harness**, Adapter to 8-pin (female) boat harness | |
| NI | RA121094A | AR | **Harness**, Adapter to 8-pin (male) boat harness | |
| 13 | RA121093 | AR | **Harness**, Adapter to 10-pin boat harness | |
| NI | RA121093A | AR | **Harness**, Adapter to 10-pin boat harness, w/VDO sensor leads | |
| NI | RA121091B | AR | **Harness**, Speed Control (14 foot) | |
| NI | RA121092 | AR | **Harness**, Engine to Dash, Un-Terminated (25 foot) | |
| NI | RA121092C | AR | **Harness**, Engine to Dash, Un-Term., w/VDO sensor leads(25 ft) | |
| 14 | RT0091 | AR | **Harness**, Test w/Key Switch | |

# ECM and RELAYS - FIGURE 17

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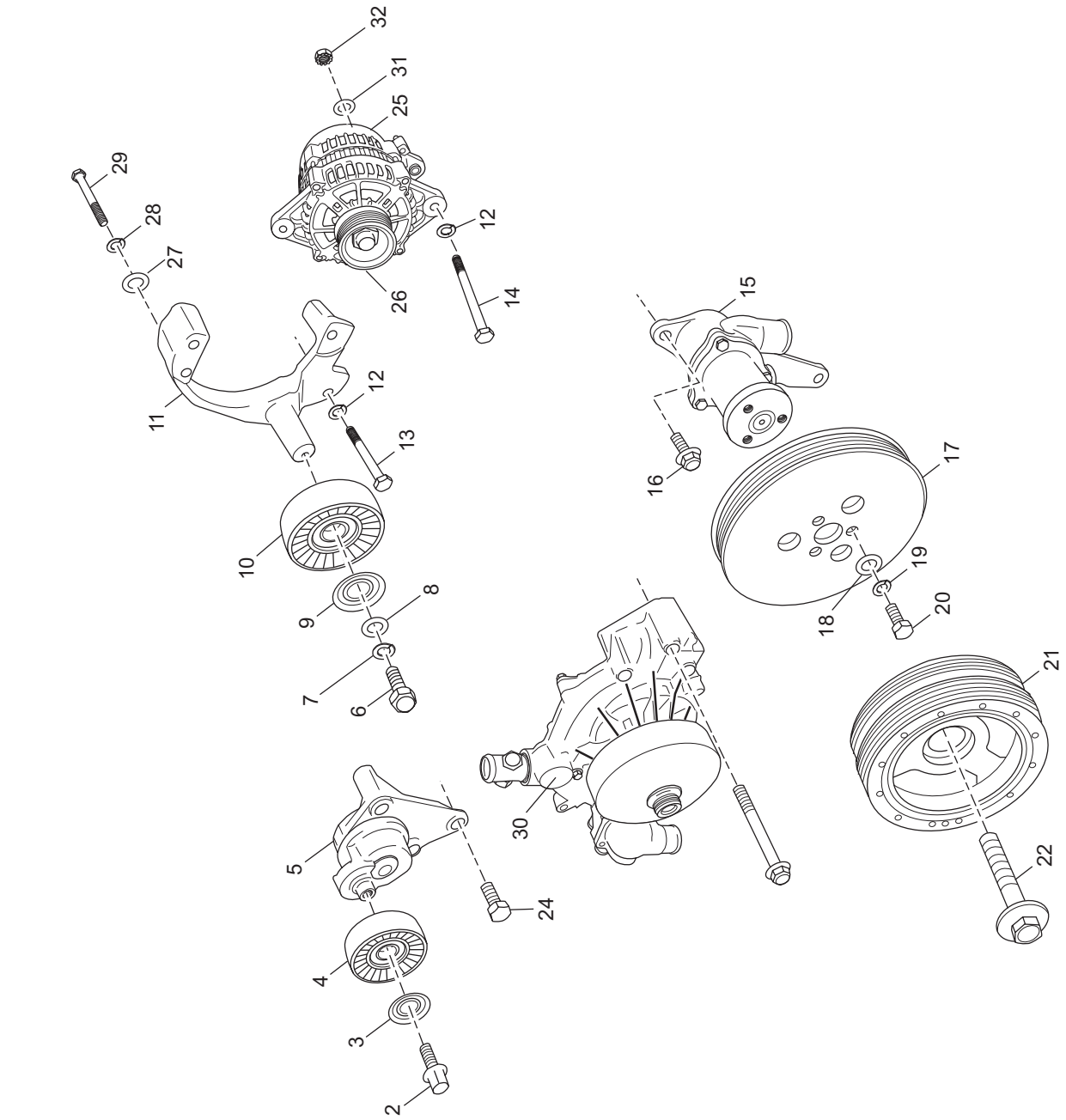
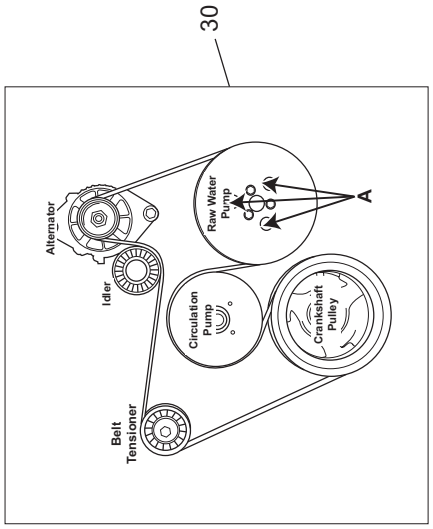
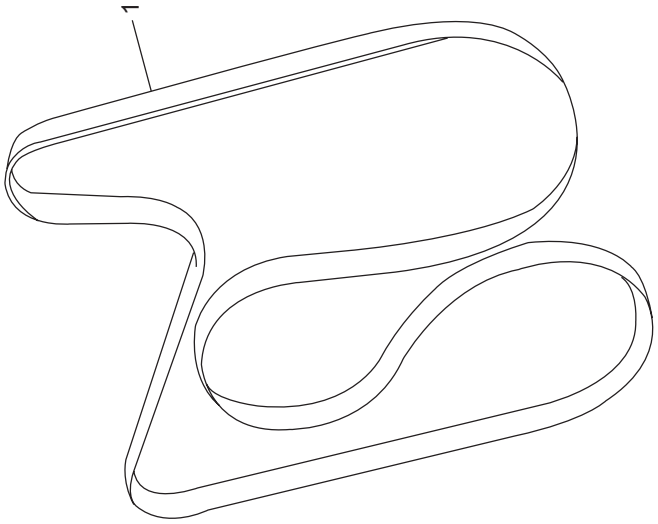
## ECM and RELAYS - FIGURE 17

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | 91107075 | 2 | **Bolt**, degas bottle bracket attaching | |
| 2 | R090274A | 1 | **Bracket**, degas bottle mounting | |
| 3 | RS0302 | 1 | **Bolt**, oil dipstick tube attaching | |
| 4 | R127015 | 1 | **Clamp**, oil dipstick tube attaching | |
| 5 | RS2180 | 1 | **Lockwasher**, oil dipstick tube attaching | |
| 6 | RS1028 | 1 | **Nut**, oil dipstick tube attaching | |
| 7 | R116023 -2Q01 | 1 | **Engine Control Module** | |
| 8 | 98223035 | 4 | **Bolt**, ECM attaching | |
| 9 | RS2672 | 4 | **Flat washer**, ECM attaching | |
| 10 | 97220060 | 4 | **Nut**, KEPS, ECM attaching | |
| 11 | R094044 | 2 | **Isolator**, fuse block mounting | |
| 12 | RS2178 | 2 | **Lockwasher**, Isolator attaching | |
| 13 | RS0251 | 2 | **Bolt**, Isolator attaching | |
| 14 | RS1078 | 2 | **Nut**, KEPS, Fuse Block attaching | |
| 15 | R090279A | 1 | **Bracket**, ECM/Heat Exchanger mounting | |
| 16 | RS2180 | 2 | **Lockwasher**, ECM bracket attaching bolt | |
| 17 | RS0304 | 2 | **Bolt**, ECM bracket attaching | |
| 18 | R143186 | 1 | **Decal**, main fuse box | |
| 19 | R130015 | 2 | **Relay**, Fuel Pump and Ignition | |
| 20 | R130016 | 1 | **Relay**, Starter | |
| 21 | R153019C | 1 | **Fuse**, Starter, 20 Amp | |
| 22 | R153019F | 1 | **Fuse**, Panel, 40 Amp | |
| 23 | R153017B | 2 | **Fuses**, 20 amp | |
| 24 | R153017A | 2 | **Fuses**, 15 amp | |
| 25 | R153017C | 1 | **Fuse**, 5 amp | |

# ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 18



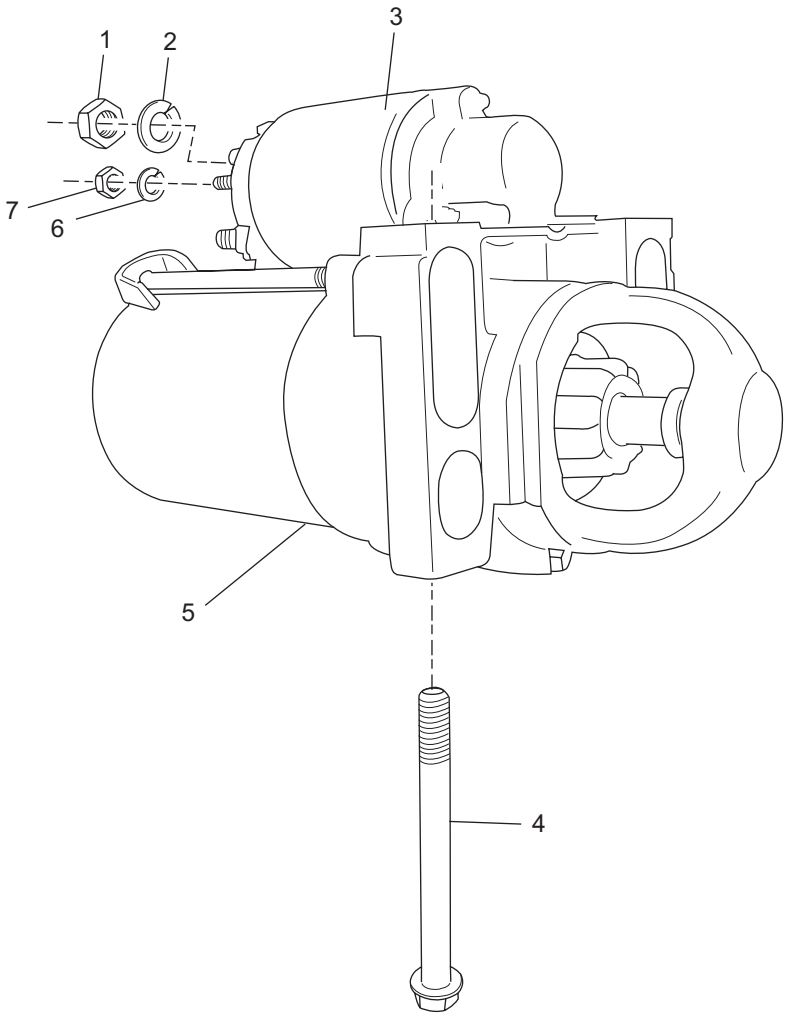



# ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 18

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R066027 | 1 | **Belt**, serpentine drive | |
| 2 | p/o item #5 | 1 | **Bolt**, tensioner pulley attaching | |
| 3 | p/o item #5 | 1 | **Washer**, tensioner pulley attaching bolt | |
| 4 | p/o item #5 | 1 | **Pulley**, tensioner | |
| 5 | RA068002 | 1 | **Tensioner**, belt | |
| 6 | 98333025 | 1 | **Bolt**, idler pulley attaching | |
| 7 | RS2179 | 1 | **Lockwasher**, idler pulley attaching bolt | |
| 8 | 92940000 | 1 | **Washer**, idler pulley attaching bolt (small) | |
| 9 | R096145 | 1 | **Washer**, formed, idler pulley attaching bolt (large) | |
| 10 | R065040 | 1 | **Pulley**, idler | |
| 11 | R090269 | 1 | **Bracket**, idler pulley mounting / alternator | |
| 12 | 93940000 | 2 | **Lockwasher**, idler pulley bracket attaching bolt | |
| 13 | 98443110 | 1 | **Bolt**, idler pulley bracket attaching | |
| 14 | 98446070 | 1 | **Bolt**, alternator mounting, lower | |
| 15 | RA057032 | 1 | **Raw Water Pump Assembly** | |
| 16 | 98442030 | 2 | **Bolt**, raw water pump mounting | |
| 17 | R065050 | 1 | **Pulley**, raw water pump | |
| 18 | 92934000 | 3 | **Flat Washer**, raw water pump pulley attaching | |
| 19 | 93934000 | 3 | **Lockwasher**, raw water pump pulley attaching bolt | |
| 20 | 99335016 | 3 | **Bolt**, raw water pump pulley attaching | |
| 21 | R064016 | 1 | **Balancer**, crankshaft | |
| 22 | TBD | 1 | **Bolt**, crankshaft balancer | |
| 23 | TBD | 4 | **Bolt**, water circulation pump attaching | |
| 24 | TBD | 3 | **Bolt**, belt tensioner mounting | |
| 25 | RA097007C | 1 | **Alternator Assembly, 70 Amp** | |
| 25 | RA097009 | 1 | **Alternator Assembly, 100 Amp** | |
| NI | RF097009C | AR | **Retro Fit Kit, 100 Amp Alternator** | |
| NI | R121081 | AR | **Harness,** Jumper, Adapt 70A harness to 100A alternator | |
| 26 | R065055 | 1 | **Pulley**, alternator (70 amp) | |
| 27 | 92200000 | 1 | **Flatwasher**, alternator mounting | |
| 28 | RS2179 | 1 | **Lockwasher**, alternator mounting | |
| 29 | 98339070 | 1 | **Bolt**, alternator mounting, upper | |
| 30 | R143147 | 1 | **Decal**, belt routing | |
| 31 | 92920000 | 2 | **Flatwasher**, alternator wire attaching (70A) | |
| 32 | 97220060 | 2 | **Nut**, alternator wire attaching (70 A) | |
| 32 | 97330060 | 1 | **Nut**, KEPS, Alternator Positive Post, 100A | |

STARTER ASSEMBLY COMPONENTS - FIGURE 19

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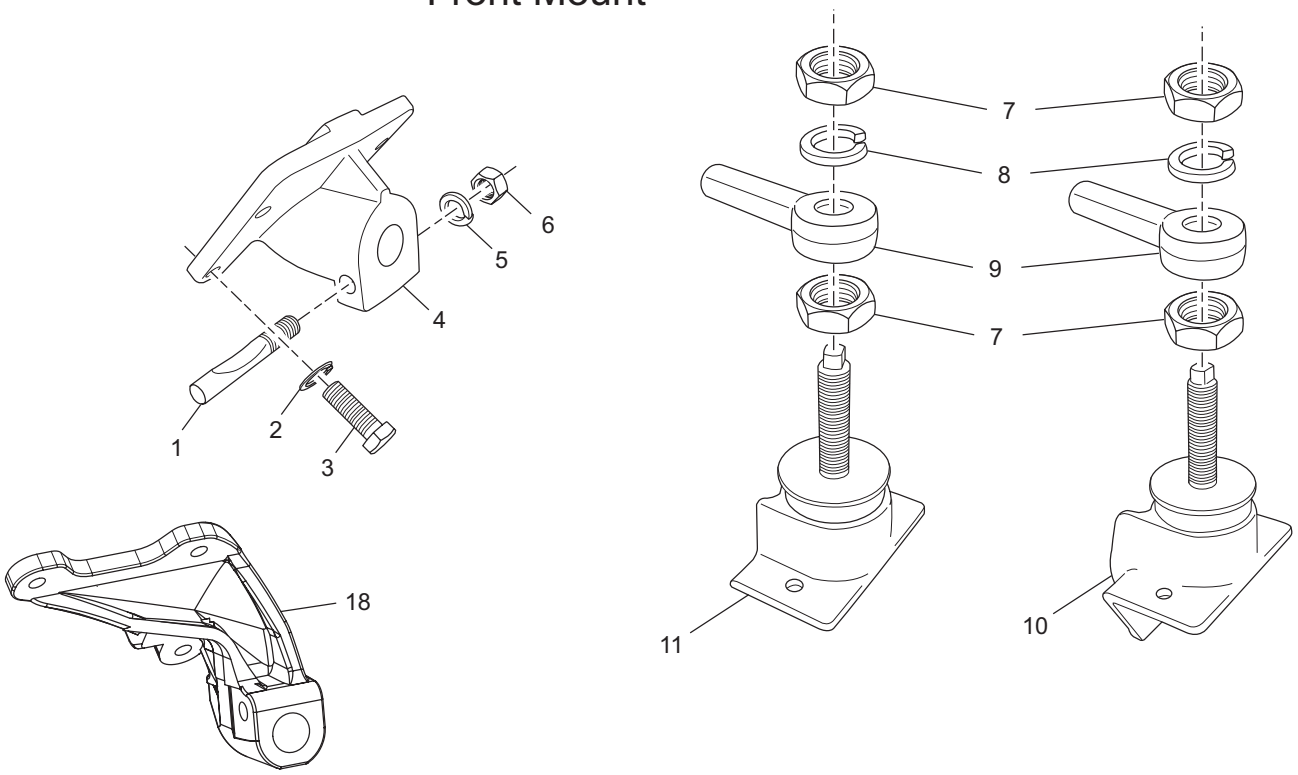
## STARTER ASSEMBLY COMPONENTS - FIGURE 19

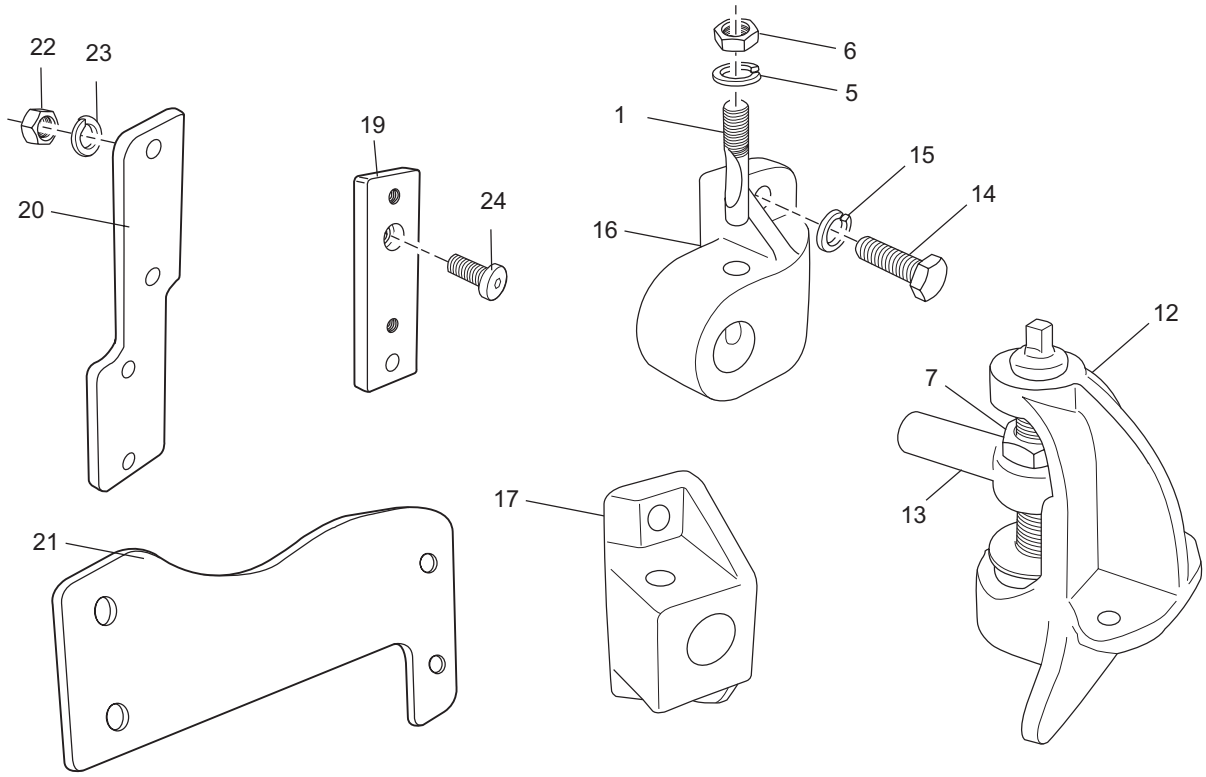
| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | RS7019 | 1 | **Nut**, solenoid terminal | 1 |
| 2 | RS2200 | 1 | **Lockwasher**, solenoid terminal | 1 |
| 3 | RU0050A | 1 | **Solenoid**, starter | 1 |
| 4 | R009203 | 2 | **Bolt**, starter mounting | 2 |
| 5 | RA122019 | 1 | **Starter Motor Assembly** | 1 |
| 6 | 93003000 | 2 | **Lockwasher**, solenoid terminal | 2 |
| 7 | RS7036 | 2 | **Nut**, solenoid terminal | 2 |

ENGINE and TRANSMISSION MOUNTS - FIGURE 20

## Engine Mount Group
## Front Mount




## Engine Mount Group
## Rear Mount

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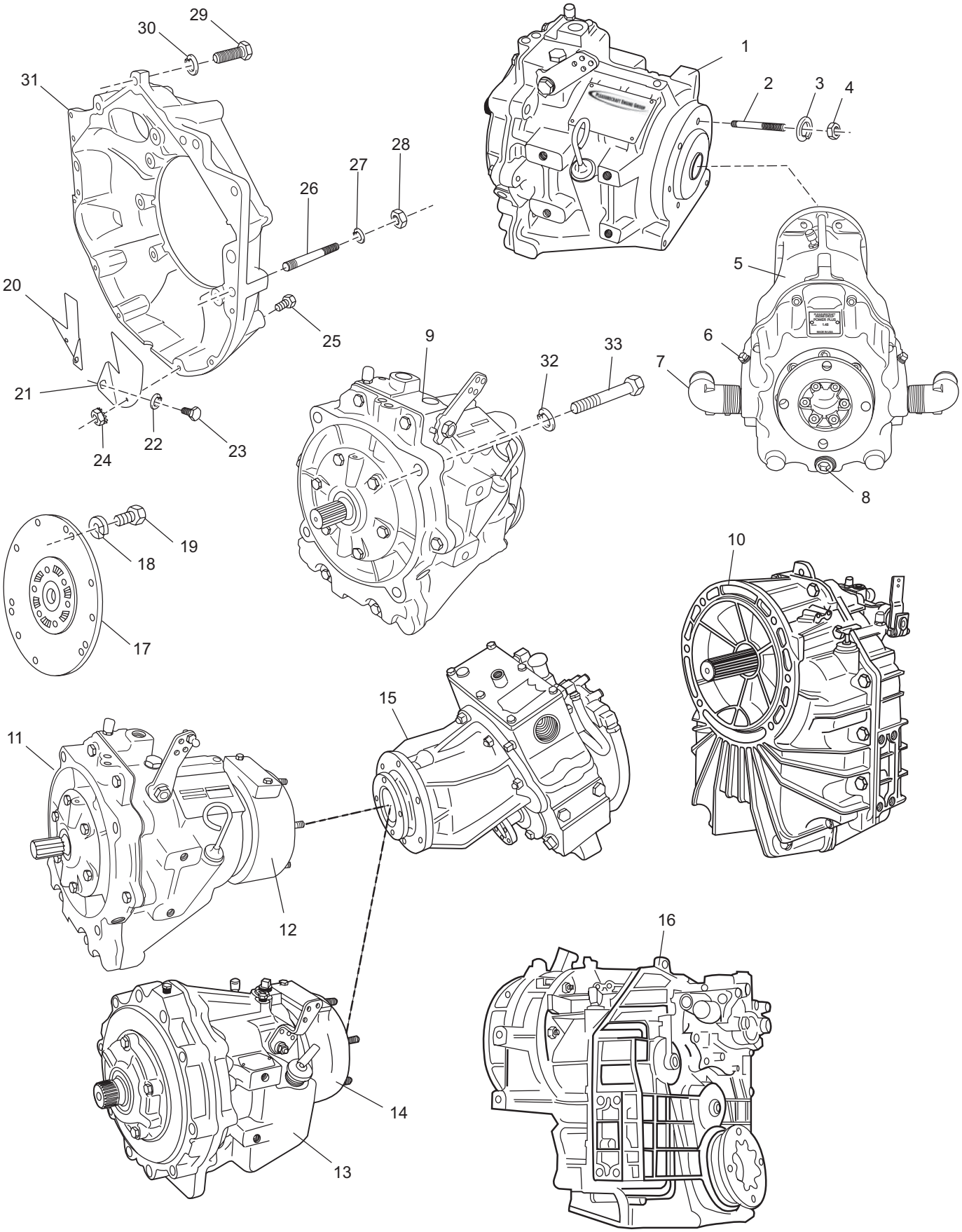
# ENGINE and TRANSMISSION MOUNTS - FIGURE 20

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R095020 | 2 | **Bolt**, trunnion clamp | |
| 2 | 93940000 | 8 | **Lockwasher**, engine mount attaching bolt | |
| 3 | 98443030 | 8 | **Bolt**, engine mount attaching | |
| 4 | R090242 | 2 | **Mount**, engine front | |
| 5 | RS2181 | 2 | **Lockwasher**, trunnion clamp bolt | |
| 6 | RS1529 | 2 | **Nut**, trunnion clamp bolt | |
| 7 | RS1075 | 4 | **Nut**, adjustment and lock | |
| 8 | RS2186 | 2 | **Lockwasher**, adjusting nut | |
| 9 | R091001 | 2 | **Trunnion,** long | |
| 9 | R091007 | 2 | **Trunnion,** short | |
| 10 | RC091001 | 1 | **Trunnion Assembly** | |
| 11 | RA092016 | 1 | **Trunnion Assembly** | |
| 12 | RA092011 | 2 | **Trunnion Assembly**, tall (1.23:1 STD / V-drive)<br>Used with item #17 - R090145 mount | |
| 12 | RA092011A | 2 | **Trunnion Assembly**, tall (1.23:1 STD / V-drive)<br>Used with item #16 - R090205 mount | |
| 12 | RA091003 | 2 | **Trunnion Assembly**, short (1.0:1 STD)<br>Used with item #17 - R090145 mount | |
| 12 | RA091006 | 2 | **Trunnion Assembly**, short (1.0:1 STD)<br>Used with item #16 - R090205 mount | |
| 13 | R091003 | 2 | **Trunnion**, 2.5” (use with R090145) | |
| 13 | R091006 | 2 | **Trunnion**, 2.125” (use with R090205) | |
| 14 | RS0329 | 4 | **Bolt**, rear mount attaching (R090205) | |
| 14 | RS0328 | 4 | **Bolt**, rear mount attaching (R090145) | |
| 14 | RS0327 | 4 | **Bolt**, rear mount attaching (R109054) | |
| 14 | RS0330 | 4 | **Bolt**, rear mount attaching (R090318) | |
| 15 | RS2181 | 4 | **Lockwasher**, rear mount attaching bolt | |
| 16 | R090205 | 1 | **Mount**, rear | |
| 17 | R090145 | 1 | **Mount**, rear | |
| NI | R090343 | 1 | **Mount**, rear, port | 15-600V-xx |
| NI | R090344 | 1 | **Mount**, rear, starboard | 15-600V-xx |
| NI | 97905 | 2 | **Mount**, engine support (dual rear) | 03-600V-01, 03-600V-02 |
| 18 | R090293 | 1 | **Mount**, engine front (port) 1.23:1 | |
| 18 | R090294 | 1 | **Mount**, engine front (starboard) 1.23:1 | |
| 18 | R090302 | 1 | **Mount**, engine front (port) 1.0:1 | |
| 18 | R090303 | 1 | **Mount**, engine front (starboard) 1.0:1 | |
| NI | 93940000 | 6 | **Lockwasher**, engine mount attaching bolt (item #18) | |
| NI | 98443030 | 4 | **Bolt**, engine mount attaching, upper (item #18) | |
| NI | 98449055 | 2 | **Bolt**, engine mount attaching, lower (item #18) | |
| 19 | R169062 | AR | **Shim**, Mount, rear | 03-600-01 |
| NI | R169063 | AR | **Spacer**, Mount, rear, 2” | 04-600V-03 |
| 20 | R090318 | 2 | **Mount**, PCM V-DRV (use with RA092016, item 11) | |
| 21 | R109054 | 2 | **Plate**, brace, PCM V-DRV used when there is no mount | |
| 22 | RS1029 | 4 | **Nut**, rear mount attaching (R090318) | |
| 23 | RS2181 | 4 | **Lockwasher**, rear mount attaching (R090318) | |
| 24 | 90465100 | 2 | **Bolt**, shim mount attaching (R169062) | |

# BELL HOUSING ASSEMBLY - FIGURE 21

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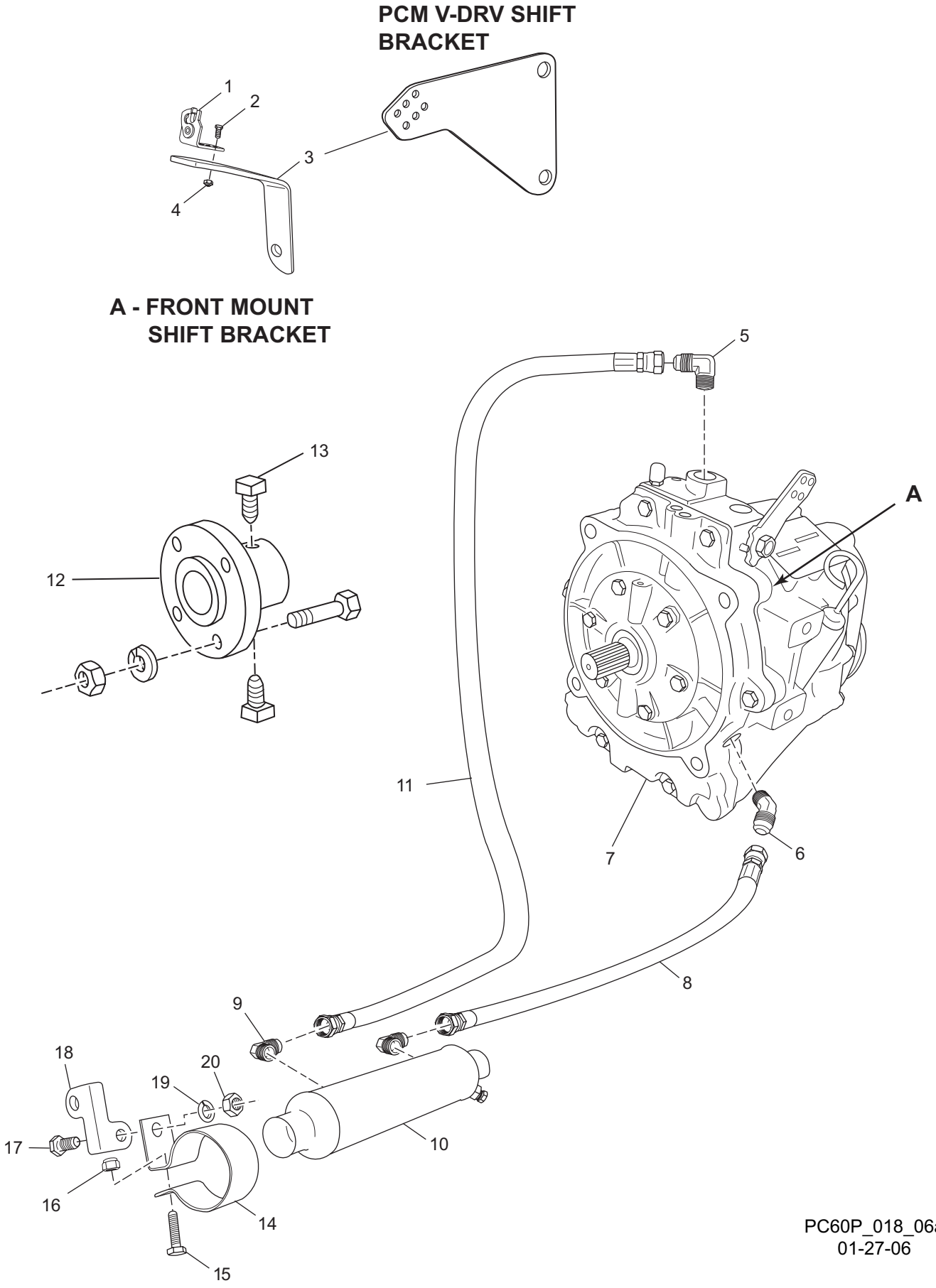
# BELL HOUSING ASSEMBLY - FIGURE 21

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | RA157015 | AR | **Transmission Assembly**, IRM40S, PCM to PCM V-DRV | |
| 2 | R031035 | 8 | **Stud**, PCM V-DRV to transmission attaching | |
| 3 | RS2179 | 8 | **Lockwasher**, PCM V-DRV to transmission attaching | |
| 4 | RS7026 | 8 | **Nut**, PCM V-DRV to transmission attaching | |
| 5 | RA156011B | AR | **PCM Power-Plus V-Drive Assembly**, 1.48:1 | |
| NI | R190250 | AR | **Gear Lube,** synthetic SAE 50, PCM V-DRV | |
| 6 | TBD | 2 | **Plug,** brass, oil fill/drain, PCM V-DRV | |
| 7 | 97854 | 2 | **Fitting**, brass elbow 90°, PCM V-DRV | |
| 8 | RS3633 | 1 | **Plug,** brass, raw water drain, 1/2” square socket | |
| 9 | RA157017 | AR | **Transmission Assembly**, IRM40I, 1.23:1 PCM | |
| 10 | RA156009 | AR | **Transmission Assembly**, 630V, HURTH, 1.29:1 | 03-600V-01 |
| 10 | RA156009A | AR | **Transmission Assembly**, 630V, HURTH, 1.5:1 | 03-600V-02, 04-600V-01 |
| 11 | RA157016 | AR | **Transmission Assembly**, IRM40A, 1.0:1 PCM | |
| 12 | R079056 | AR | **Adapter**, V-Drive, PCM to Walter | |
| 13 | RA157001 | AR | **Transmission Assembly**, 1.0:1 Warner (71C) | |
| 13 | RA157003 | AR | **Transmission Assembly**, 1.0:1 Warner (72C) | |
| 13 | RA157001A | AR | **Transmission Assembly**, (71C w/v-drive adapter)) | |
| 14 | R079072 | AR | **Adapter**, V-Drive, Warner to Walter | |
| 15 | RA156004 | AR | **V-Drive Assembly**, Walters, 1.46:1 | |
| 16 | RA156010 | AR | **Transmission Assembly**, 90VTS, ZF 2-speed | 04-600V-02 |
| NI | RK104013 | AR | **Connector Kit**, ZF 2-speed | |
| 17 | 98511 | 1 | **Plate**, damper (Warner Transmissions, 6.0/8.1L) | |
| 17 | R140016 | 1 | **Plate**, damper (PCM Transmissions) | |
| 17 | R140018 | 1 | **Plate**, damper (Hurth Transmission/2-speed) | |
| 18 | 93940000 | 4 | **Lockwasher**, damper plate attaching bolt | |
| 19 | 98446030 | 4 | **Bolt**, damper plate attaching | |
| 20 | R019011A | 1 | **Cover**, dust, (stbd) (use w/top mount starter) | |
| 20 | R019011 | 1 | **Cover**, dust (stbd) (use w/bottom mount starter) | |
| 21 | R019012 | 1 | **Cover**, dust (port) | |
| 22 | 93920000 | 2 | **Lockwasher**, dust cover attaching | |
| 23 | RS6503 | 2 | **Bolt**, dust cover attaching | |
| 24 | RS1078 | 2 | **Nut**, dust cover attaching | |
| 25 | RS0256 | 2 | **Bolt**, dust cover attaching | |
| 26 | R031034 | 2 | **Stud**, bellhousing attaching | |
| 27 | 93940000 | 2 | **Lockwasher**, bellhousing attaching | |
| 28 | 97440000 | 2 | **Nut**, bellhousing attaching | |
| 29 | 98443050 | 3 | **Bolt**, bellhousing attaching | |
| 30 | 93940000 | 3 | **Lockwasher**, bellhousing attaching | |
| 31 | R142014 | 1 | **Bellhousing**, top or bottom mount starter | |
| 31 | R142006B | 1 | **Bellhousing**, bottom mount starter, only | |
| NI | R019010 | 1 | **Cover**, dust, top mount starter (used w/R019008A) | |
| NI | RS0327 | 2 | **Bolt**, dust cover attaching | |
| NI | RS2181 | 2 | **Lockwasher**, dust cover attaching | |
| | | | **** PCM **** | |
| 32 | RS2180 | 4 | **Lockwasher**, transmission attaching bolt | |
| 33 | RS0329 | 4 | **Bolt**, transmission attaching | |
| | | | ****Velvet Drive **** | |
| NI | 96541 | 2 | **Stud**, transmission mounting (4”) | |
| NI | RS2181 | 6 | **Lockwasher**, transmission mounting | |
| NI | RS1029 | 2 | **Nut**, transmission mounting stud | |
| NI | RS0337 | 4 | **Bolt**, transmission mounting | |
| | | | ****Hurth Gears**** | |
| NI | R031018 | 2 | **Stud**, transmission mounting (1 5/8”) | |
| NI | RS2181 | 6 | **Lockwasher**, transmission mounting | |
| NI | RS1029 | 2 | **Nut**, transmission mounting stud | |
| NI | RS0329 | 4 | **Bolt**, transmission mounting | |

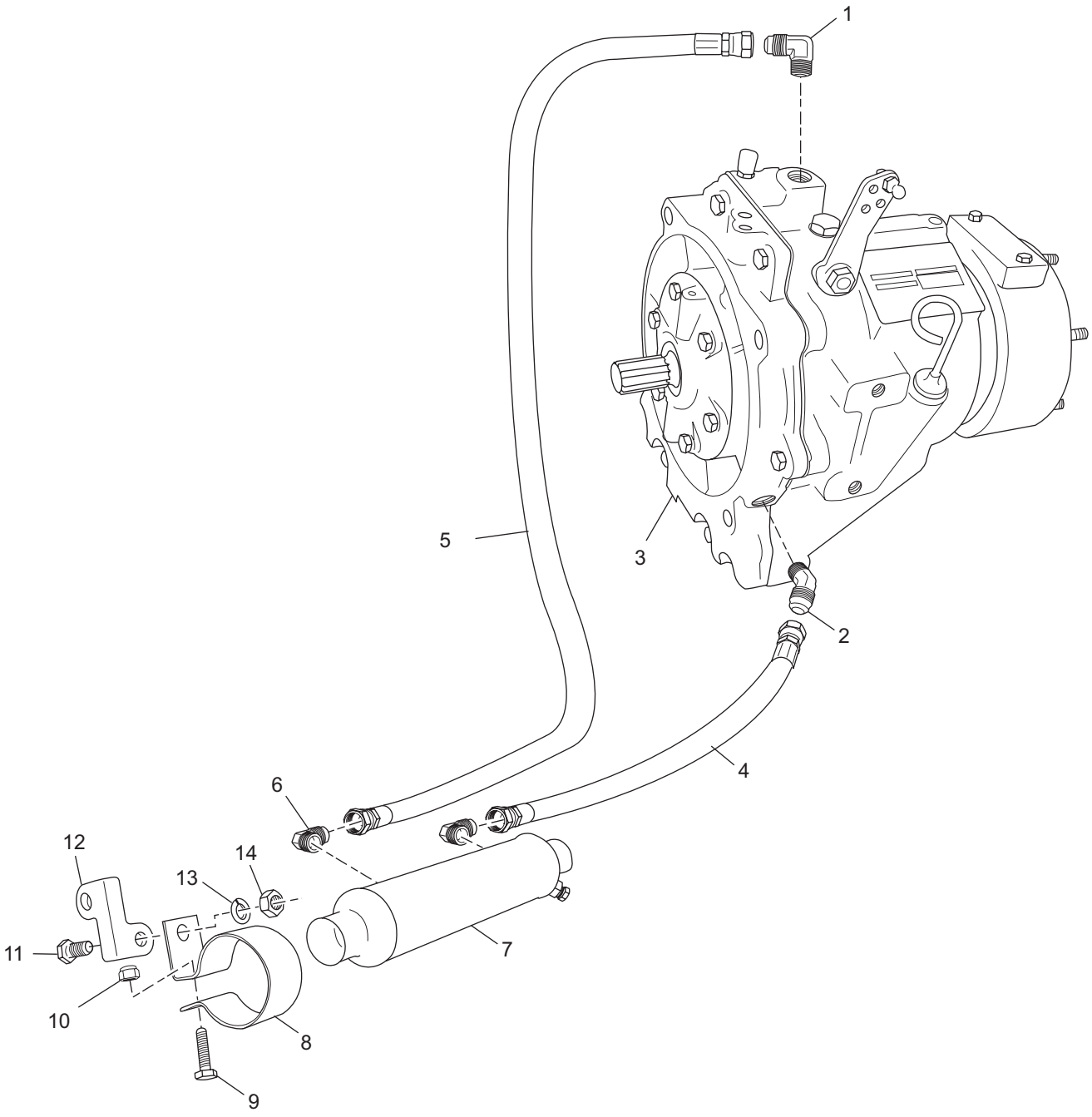
TRANSMISSION AND RELATED COMPONENTS (STANDARD DRIVE) - FIGURE 22



# TRANSMISSION AND RELATED COMPONENTS (STANDARD DRIVE) - FIGURE 22

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R090086 | 1 | **Cable Clip,** single cable | |
| 2 | RS5122 | 2 | **Bolt,** cable clip attaching | |
| 3 | R090143A | 1 | **Bracket,** shift | |
| 3 | R090319 | 1 | **Bracket,** shift (PCM V-DRV) | |
| 4 | RS2055 | 2 | **Nut,** cable clip attaching bolt | |
| 5 | R024010 | 1 | **Fitting,** 90 degree | |
| 6 | R024053 | 1 | **Fitting,** 45 degree | |
| 7 | RA157017 | 1 | **Transmission,** 1.23:1 | |
| 7 | RA157016 | AR | **Transmission,** 1.0:1 | |
| 8 | RA045007M | 1 | **Hose Assembly,** cooler to transmission | |
| 9 | R024010 | 2 | **Fitting,** 90 degree | |
| 10 | R147014 | 1 | **Transmission Cooler Assembly** | |
| 11 | RA045007T | 1 | **Hose Assembly,** transmission to cooler | |
| 12 | R148010 | OPT | **Coupler**, prop shaft (4” X 1” shaft) | |
| 12 | R148011 | OPT | **Coupler**, prop shaft (4” X 1 1/8” shaft) | |
| 13 | 2000090 | 2 | **Screw**, set - coupler | |
| 14 | R090010 | 1 | **Clamp,** cooler assembly mounting | |
| 15 | RS0256 | 1 | **Bolt,** cooler attaching | |
| 16 | RS1078 | 1 | **Nut,** cooler attaching | |
| 17 | RS0302 | 1 | **Bolt,** cooler clamp attaching | |
| 18 | R090013A | 1 | **Bracket,** cooler mounting | |
| 19 | RS2180 | 1 | **Lockwasher,** cooler clamp attaching bolt | |
| 20 | RS1028 | 1 | **Nut,** oil cooler clamp attaching bolt | |

TRANSMISSION AND RELATED COMPONENTS (1.0:1 “V” - DRIVE) - FIGURE 23



# TRANSMISSION AND RELATED COMPONENTS (1.0:1 “V” - DRIVE) - FIGURE 23

| ITEM | PART NO. | QTY. | DESCRIPTION | MODEL ID |
|---|---|---|---|---|
| 1 | R024010 | 1 | **Fitting,** 90 degree | |
| 2 | R024010 | 1 | **Fitting,** 90 degree | |
| 3 | RA157016 | 1 | **Transmission,** 1.0:1, (w/R079056 Adapter) | |
| 4 | RA045007M | 1 | **Hose Assembly,** cooler to transmission | |
| 5 | RA045007T | 1 | **Hose Assembly,** transmission to cooler | |
| 6 | R024010 | 2 | **Fitting,** 90 degree | |
| 7 | R147014 | 1 | **Cooler Assembly**, transmission | |
| 8 | R090010 | 1 | **Clamp,** cooler assembly mounting | |
| 9 | RS0254 | 1 | **Bolt,** cooler attaching | |
| 10 | RS1078 | 1 | **Nut,** cooler attaching | |
| 11 | RS0302 | 1 | **Bolt,** cooler clamp attaching | |
| 12 | R090013A | 1 | **Bracket,** cooler mounting | |
| 13 | RS2180 | 1 | **Lockwasher,** cooler clamp attaching bolt | |
| 14 | RS1028 | 1 | **Nut,** oil cooler clamp attaching bolt | |